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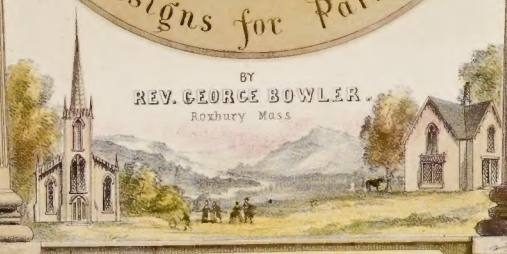
CHAPEL & CHURCH

Architecture

With designs for Parsonages.

BY
REV. GEORGE BOWLER.
Roxbury Mass.



Boston
JOHN P. JEWETT AND COMPANY.
Cleveland Ohio
JEWETT PROCTOR & WORTHINGTON.
New York
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1856.

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PREFACE.

We offer to the Public no apology for the present issue. The works which have preceded the present on the same subject, seem to us to have failed in meeting the wants of a large portion of those for whom they were designed; and desirous, if possible, in some degree to meet the lack, we have ventured to open our Portfolio, and present it to those who feel an interest in the improvement of our styles of Church Architecture. Whether we have succeeded better than those who have preceded us, is not for our own decision. We do not claim a greater knowledge,—more perfect taste,—better judgment or superior professional skill, to our compeers. We therefore expect that some deficiencies may be discovered, and that others will criticise our humble efforts, and perhaps condemn them. The need of a work on this subject is so patent to the author, that he considers it beyond controversy. Having made the science of Building a study for some years before entering the ministry, he had gained some knowledge of the principles of correct taste in constructing the different styles of private and public buildings, and in common with others he could not fail to notice the great want of taste and skill which is so fully manifest in every village and hamlet throughout the land. Awkward—ill-constructed—unventilated and incommodious public buildings, and equally awkward private dwellings—not without form, but devoid of comeliness—stand before us wherever we turn. Glaring with white paint and unrelieved by contact with any green thing, (for all trace of God's beautiful handiwork is obliterated in their vicinity,) there stands, in almost every village, some church, constructed without any reference to beauty, convenience, or any thing else save a "meeting-house," in which the people may convene for an hour or two on the Sabbath,—without ventilation—adorned with rusty stove-pipes running half their length—with a better adaptation to any thing else than that for which they were designed,—these houses have been dedicated to the God of Heaven, as temples for His praise, when we would neither accept them for our own purposes, or suffer our children to live therein. After an experience of some years in the ministry of the Gospel, the author has yielded to his own convictions and the wishes of his friends; and while engaged in parochial duties, has plied his pencil at every leisure hour, in the attempt to correct the public taste in this direction, by showing forth his own. There may be a show of vanity in all this; but in justification we need only repeat what another has well said, viz., "He who would correct the taste of others, or their skill, must have a good opinion of his own." These designs are entirely original, with the exception that the steeples of Nos. 7 and 8 are altered from churches already erected—No. 7 from a church in West Cambridge, Mass., and No. 8 from a church in Roxbury, Mass.—the architects of which should have the credit of the original idea, although so greatly altered they might not be willing to own them; but they are unknown to the author of this work. In all other respects the designs are new. We have made no attempt to supply plans for costly churches, but have devoted our skill to the attempt to supply something applicable to the wants of religious societies of moderate means. We cater for those who would build, not merely to admire or to excite the admiration of their neighbors, but who with sincere hearts and humble desires seek to provide a place in which to worship in quietness, free from the influence of worldly pride and worldly ambition; who worship not Art, but God. The lack of taste is not more unseemly to such than the excess of ornament; we have therefore tried to preserve the right medium, coupling at the same time convenience with beauty, and economy with taste; banishing from the house of God whatever might offend against the proprieties of a true heart-worship, and adding whatever might aid the true educational power and influence of the associations which cluster around the sacred spot. How well we have succeeded in this, we now leave with the public to judge.

May 1st, 1856.

A WORD OF EXPLANATION.

It may be that many persons, who purchase a work of this character, will be disappointed in not finding a complete set of working plans connected with each of these designs; and specifications, estimates, and every variety of detail sufficient to enable them to build, without the necessity of having recourse to any architect for further counsel or advice. All this we would gladly have embraced in the present volume, could it have been practicable. In such a case, however, the expense of the work would have been very great—exceeding fifty dollars per copy—thereby restricting its sale, if not completely prohibiting all hope of reaching the class for whom it is designed. We have therefore pursued a course which we deem preferable. Excepting in the case of our small chapel plans, the services of an architect will be needed. Our design proposes simply to give to building committees, and others, a series of plans in different styles, adapted to different localities, embodying all the modern improvements, and accompanied by such suggestions as we think necessary in order to a right carrying out of the projects which may be formed for the convenient accommodation of the people,—so that any man, or body of men, may decide upon a plan and style of building, and be able to satisfy themselves in regard to what they need, before they attempt to estimate the expense of building. We have however designed to have the working plans prepared for each of these designs, so that any who may need them can have them without delay, by applying to the author of this work. All these designs are susceptible of modification and enlargement, so as to meet the desires and demands of any congregation. In regard to the estimates of expense, we can give nothing reliable. Such is the diversity in the prices of stock and material as well as labor, that a sum amply sufficient to build in one locality would fall far short in another. The expense of building in the city is greater than in the country;—in New England far greater than in the West. But we have endeavored to reach such a conclusion (with the various prices of stock and labor before us,) as will approximate the actual cost in New England or New York. With this explanation of our design, we shall not need to enter into any lengthened description of our drawings; but shall bring to view in few words the more noticeable features of the different designs, occasionally adverting to the details of exterior and interior finish and ornamentation.

We do not deem it necessary to add any farther explanation of our purpose and design; we shall, however, add some suggestions in the chapter following.

A BRIEF HISTORY OF SACRED ARCHITECTURE.

Architecture, as a science, has a higher claim than it has ever received among us as a nation. Not only as being prior to all other sciences does it commend itself as a study, but as giving occasion for the encouragement of every other branch of the fine arts. In itself it is a combination of science and art. It demands the taste of the painter and the skill of the sculptor. Some one has well said that "Without science, architecture is an effeminate and useless pastime, and, without the higher feelings of art, a mere constructor of huts and cabins." To be an architect, in the highest sense of the word, involves a profound mind stored with knowledge of mathematics and mechanics, of geology, chemistry, and philosophy, and capable of adapting all the knowledge possessed to the great ends which it purposes to accomplish. Hence is it that we have so few great architects. He who aims simply to furnish a neat and chaste design for a cottage ornee or a village church, will hardly apply himself to those studies which are needful in order to the accomplishment of great designs, and will not be likely to leave behind him any very superior monument of skill to tower in its beauty long centuries after his footfall shall cease to be heard on earth. There are laws and governing principles which belong and cleave to every department of the fine arts, yet every law which is applicable to any one of them is a law and rule of architecture; for, in design and construction, whatever violates good taste as pertaining to any branch of art, violates the true principles of design. Thus, whether it be the grand cathedral or the humblest cottage of the humblest artisan which the lover of the science would attempt to produce, he must bring into play all the knowledge which he possesses.

There can be no doubt but that sacred architecture first had its rise in the more primitive styles of monumental architecture; and it would require no great stretch of imagination, in the absence of any direct proof, to trace out the progress from the simple memorial which Jacob erected to commemorate his vision to the grand cathedral,

> "Whose fretted roof, with lofty column stayed,
> And arched with mighty skill,
> Now towers high and grand, a monument to God."

What could be more natural than for him who would offer sacrifices to his gods, to select some one of the many monuments of remembrance on which to lay his offering and spill its blood? What more natural than for another to do what had once been done? And, when many had made this the place of habitual offerings and sacrifices, the most natural thing to follow would be the enclosing and covering of the place, forming a sort of tabernacle in which the priests might minister and the worshippers assemble together. It is said that the earliest temple erected expressly as such was that of Ninus, who ordered the people to worship his own father under the name of Jupiter Belus. This temple Herodotus declares to have been splendid in its dimensions and design, and contained the brazen statue of Jupiter Belus, otherwise in the Scripture called Baal and Baal-Peor. It was only some two hundred years after the Flood that this statue was cast and this gorgeous temple erected. About this time architecture was cultivated in other countries, and in all places the most splendid edifices were the temples of the gods. Thus, even in very remote ages, sacred architecture flourished in a peculiar sense, the temples of the gods being much more beautiful, massive, and stupendous in their dimensions than any of the other edifices erected by a nation.

In our brief limits we cannot go into any detailed description of the principal monuments of sacred architecture erected among the ancients, however pleasing it might be. From Assyria the knowledge of the science of which we speak spread rapidly to other nations, and soon there rose in Egypt the stupendous evidences of the skill of those who had made themselves masters of the principles of this science; and in every country over which the conquering arm of the Assyrian was reached out there were to be seen the evidences of progress in knowledge and science which the victors imparted to the vanquished.

"The first temples," says Wren, "were, in all probability, in the ruder times, only little cellæ (cells) to inclose the idol within, with no other light than a large door to discover it to the people when the priest saw proper, and when he went in alone to offer incense, the people paying adoration without doors,—for all sacrifices were performed in the open air, before the front of the temple. But in the southern climates a grove was necessary, not only to shade the devout, but, from the darkness of the place, to strike some terror and recollection in their approaches; therefore, trees being always an adjunct to the cellæ, the Israelites were commanded to destroy not only the idols, but also to cut down the groves which surrounded them: but, trees decaying with time, or not equally growing, though planted at first in good order, or possibly not having room, when the temples were brought into cities, the like walks were represented with stone columns, supporting the more durable shade of a roof, instead of the arbor of spreading boughs; and still, in the ornaments of stone work, was imitated, as well as the materials would admit,

both in the capitals, friezes, and mouldings, a foliage or sort of work composed of leaves, which remains to this age."

In this connection perhaps we cannot do better than to give a short extract from Elme's Dictionary, which will give us some idea of the art or science of architecture among the Egyptian nations. He says:

"Few nations of antiquity cultivated sacred architecture with greater devotion or with more splendor than did the ancient Egyptians, particularly in that part of their country called Thebais, or Upper Egypt. The chief pride of this country was its principal city, Thebes. The Thebais is the most southerly part of Egypt, nearest to Ethiopia, and was nearly as large as the other two parts of Egypt together, including in its boundaries all the country on both sides of the Nile down to Heptanomis.

"At the time of the Trojan war Thebes was reckoned the most opulent and the best-peopled city in the world. Among the principal edifices of the Thebais was the magnificent palace and temple of Memnon, which, according to Strabo, stood in the city of Abydos, the second city to Thebes, about seven miles and a half to the west of the Nile; that a celebrated temple of Osiris was near to it; that it was also famed for a deep well or pool of water, with winding steps all round it; that the stones used in it were of an astonishing magnitude, and the sculpture on them excellent.

"Among other principal structures which embellished this portion of Egypt was the palace of Ptolemy, at Ptolemais, a city which he decorated with many costly sacred buildings. Under the Ptolemies the style of architecture in Egypt sustained a complete revolution, and their buildings approached the style which was afterwards so beautifully refined by the Greeks, who brought it to complete perfection; yet they never reached that pure and noble style which distinguished the tasteful inhabitants of Attica.

"These works were probably executed by Greek architects, called into Egypt by the Ptolemies and their successors. This conjecture appears the better founded, since a modern traveller, Granger, describes a temple which he had seen of the Corinthian order, and farther observes, in speaking of a palace which he believes made part of ancient Thebes, that the capitals of the columns were of the Composite order, highly finished.

"The objects, however, which most concern the present work, are its sacred edifices. Its four principal temples were of immense size and of a singular beauty of workmanship. The gold, ivory, precious stones, and other costly and valuable ornaments with which they were decorated, were stripped off and carried away by the Persians when Cambyses conquered and ravaged Egypt.

"At Cnuphis, a city of the Thebais, so called from the god of that name, was a magnificent temple dedicated to that idol. At Carnac, another large city near Thebes, there are still the remains of a superb temple of Jupiter, now the most perfect in that part of Egypt. The magnificent temple of Apollo, at Apollinopolis, was one hundred and seventy feet long, one hundred and eighty feet broad, and seventy feet high, as appears by the ruins which still remain. The characters of all these buildings bear a close resemblance to each other, and are standard characteristics of Egyptian architecture. The inhabitants of Tentyra, or Dendera, were great worshippers of Iris and Venus. From the splendid ruins of this city it appears that their temples were more beautiful and splendid, and in a better style of art, than any others in Egypt.

"The resemblance between many ancient and distant nations, in their language, manners, customs, architecture, and sculpture, is very great, but, when first causes are investigated, by no means surprising. Sir William Jones, in his invaluable discourses, which are the concrete of many volumes, observing on the language, manners, and antiquities of the ancient inhabitants of India, comes to the indisputable result that they had an immemorial affinity with the ancient Persians, Ethiopians, and Egyptians; the Phœnicians, Greeks, and Tuscans; the Scythians, or Goths, and Celts; the Chinese, Japanese, and Peruvians."

Thus these examples prove a most interesting fact in the history of mankind. But we must leave these ancient memorials, making reference only in this place to one somewhat curious example of sacred architecture, to which some reference is had in the Bible. Tyre was built some 1060 years before Christ. In its midst stood the temple of Dagon, which was destroyed by Samson, who, we are told, by applying his immense strength to the columns against which he leaned while the worshippers of Dagon made sport of their captive, overthrew the whole edifice, burying himself and those who mocked him in one vast ruin. How any temple could be or should have been so constructed as that by applying his strength to a single column Samson should have been enabled to overthrow and destroy the whole vast fabric, has been a matter of speculation to many ingenious minds; but Sir Christopher Wren, a man of vast and varied knowledge, and whose profound research in the sciences was equal to the skill which he displayed in architecture, has given a very clear elucidation of the manner of constructing such a building. He conceived a vast oval building or amphitheatre, whose roof of cedar beams, of immense weight, rested upon the walls and centred upon a short architrave, which united the two central columns. So large a number of beams could not all concentrate at one point, but all might rest upon the architrave which bound two columns together. By his miraculous power pressing one of these beams from its basis, the whole building must fall a mass of ruins.

Having made this reference to the early days of sacred architecture, we shall only farther remark, that the greatest successes achieved in this direction were by the Greeks, to whom we are indebted for the pure styles which have been handed down to our own day, and from which the chaste ornaments which adorn our temples have been derived. One style alone would not suffice for the Grecian architects, for they were very careful that whatever of decoration should relieve the nakedness of their buildings should accord both with the character of the building, the design which it was destined to fulfil, and the situation in which it was placed. To enter into a description of their styles and orders would weary the reader, inasmuch as it would be an "oft-told story;" and any description of the principles on which these styles were founded would involve an amount of space which we cannot afford in a work of this character.

But we cannot leave this subject without a slight reference to another style of architecture, and some modifications of it, of which we have furnished a few plain specimens. Some one has defined the Gothic, quite contemptuously, as "anything which is not Grecian;" while others claim for it the name of Ecclesiastical architecture, as being peculiarly fitted for temples

and churches. We may be allowed to differ from both. A beautiful style in itself, it seems to us to be adapted to church building wherever we desire to ornament and beautify to a greater extent than is admissible in the more chaste and severe Grecian and Roman styles. The elements of which it is composed are buttresses and pinnacles, spires and lancet windows; its lines are vertical rather than horizontal, giving a lofty appearance, and pointing upward the gaze. While Greece is the classic soil of the ancient orders, the Gothic belongs to England, and its finest specimens are to be found on her soil. Throwing aside all trammels and trampling upon all system, this style of building admits an almost infinite variation, and every architect adds and alters as he may please, modifying to suit the limited means and amplifying to reach the highest altitude of ambitious pride. From this style has been derived the Byzantine, the Norman, and the Romanesque,—all very similar, yet slightly differing; a difference, however, which we could scarcely define. The absence of the pinnacles, as seen in comparing plates 22 and 23 with plates 26 and 27, the round window-heads in place of the lancet-shape, and a few minor details of finish, together with the circular in place of the pointed arch, wherever arches are necessary, are the principal points of difference. In design No. 12 we have a specimen of the Gothic; in No. 10 of the Romanesque; in No. 9 of the Byzantine; in No. 15 of the Norman: all of which are modified to meet the limited means of churches composed of persons belonging to the middling classes in life.

With these few remarks, we leave this chapter, to consider some things more intimately connected with our present design.

ARCHITECTURAL DESIGN.

Ecclesiastical Architecture admits of almost an infinite diversity; and, on the part of some, especially "the old enthusiasts," who made this branch of art a life-long study, an attempt to adapt some outward form to the expression of each inward type of Christian emotion and every phase of Christian character has been made. A great variety of styles has thus been produced, not greatly differing from each other, to be sure, but yet sufficiently distinct to gain a name and classification. Yet, after all, there are, comprehensively speaking, but the Grecian and the Gothic styles. These are modified in peculiar forms, some of which have attained the rank of distinct orders, and yet are, nevertheless, to some degree in subjection to the rules of the two principal divisions named. These two principal orders are almost entirely opposite to each other, differing in all their essential parts, and producing entirely contrary effects on the mind; and at different periods in history there may be remarked a change from the enthusiasm for the one, in the minds of men of taste, to an enthusiasm for the other. The popular taste, never fully satisfied, oscillates from one extreme to the other; so that, as taste changes in respect to dress, and the arbitrary rules which govern the change are styled the laws of fashion, so is there in taste, as applied to architectural designs, a regular operation of laws, which, in perpetual motion, brings us now to one extreme and now to another. But in works of art, where long years are necessary to the perfecting of a work, these changes are gradual, requiring ages to oscillate to the extremes. Perhaps we cannot better express the idea than by inserting an extract from the sixth volume of the *New Englander*, written by Dr. Daggett, who evidently understands the subject on which he has so well written.

"Comparing, or rather contrasting, a Greek and a Gothic edifice, each being a favorable specimen of its kind, an observer finds the difference pervading every part, extending to the minutest device or ornament, and carried out into the general effect; each building rising as it were from one conception of the mind, according to its own laws enlarging itself, and, by coherence and unity, coming to that harmonious result which is called, according to the position from which it is described, either the expression or impression of the whole: as two kinds of trees grow, by their respective laws, each into its proper beauty. For example, in Gothic architecture the lines are perpendicular or else slanting, the curves intersect one another as if all aspiring to greater height, and, by mechanical contrivance, one part surmounts another to a great comparative elevation; and, besides giving the pleasure of ingeniously overcoming difficulty in the construction, the whole has an air of loftiness, grandeur, and natural solemnity, and sometimes of grace combined with vastness. In the Greek architecture, on the other hand, the lines are for the most part horizontal, and the proportions of all the parts are nicely adjusted, both for strength and effect on the eye; the whole making the impression of solidity or massiveness, and repose, and serenity; the Doric order having also the charm of the utmost simplicity, and the Corinthian of rich yet chastened decoration."

And again he says:

"Upon what is called the revival of learning in Europe, after the mixed Roman models had long prevailed in the more southern countries, and the most eminent examples of Norman and Gothic architecture had already grown venerable in England and Germany, the public taste in England, as well as elsewhere, turned strongly toward the purer Greek forms, which in turn became objects of too exclusive admiration. More or less modified, they entered into the ideal of artists and amateurs, to the undue disparagement of all later models. The Gothic style began to be reckoned fantastic and well-nigh barbarous, like the superstitions of the ages that produced its most wonderful examples, in comparison with the Greek orders and their Roman derivatives. Sir Christopher Wren may be regarded as an example of this tendency. Within the present century a change in this respect has been going on in Great Britain and in this country. In architecture, as in poetry, the classic and romantic tendencies seem to have been in competition, the one or the other prevailing in both arts at nearly the same periods; and of late the latter seems to have been regaining in turn its old ascendency. Pointed arches and clustered pillars now attract the enthusiasm of church builders more than nicely-adjusted columns and entablatures. And human nature still carries its partialities into extremes, for in some parts of this country we see barns

and sheds made to look like Gothic chapels or monastic enclosures, as formerly in England they aspired to resemble Greek temples. Now the caution we believe to be needful, is, against exclusiveness in this or in any other direction, and in behalf of that more liberal habit which recognizes beauty under all its variety of forms and expressions. Judging from the notices and comments in some of the popular journals and in fashionable conversation, and from the zeal with which one congregation emulates another in copying the same class of models, one might suppose that really no costly church ought to be built, or can ever again be admired, unless it is made to look like some old English example; and that the imitation is only the more to be admired if the original was constructed piecemeal at successive times, and hence had a propriety which in truth never can be transferred to any copy."

Every building erected, and especially if it be of any pretension and calculated to attract notice, as a church must do, should conform to the rules of one or the other of these styles. It will never do to erect a building merely to please our own fancy; but conformity to the rules of art should invariably be observed. Excessive adorning degenerates from ornament into bad taste, and becomes a monument of folly rather than an incentive to our admiration. But while we ornament and beautify our own homes, we should not fail to add whatever would make more attractive the house of God. It should at least compare well with our dwellings in everything promotive of the finer feelings of the soul. Never should we be content in allowing the worship of God to be conducted in a mere barn-like edifice, under a plea of poverty, unless we are really poor. It is a practical lie, when, living in ease ourselves, and supplied with every comfort which the hand of a kind Parent can bestow upon us, we say we cannot afford to give of our substance for the better arrangement and accommodation of the services of religion.

Great blame has been laid on many churches because they have erected costly edifices; but, if we rightly interpret Christian duty in this regard, there is no sin inhering in this fact, but the sin lies more in the exclusive character of the houses which we dedicate to the purposes of worship. Too often it is true that pride would exclude poverty; that, while ostensibly the wealthy erect beautiful and costly church edifices for religion's sake, it is in reality only for pride's sake; and hence whatever in the garb of poverty and lowliness offends the eye must be excluded. Religion possessed in the soul presents the claims of charity to the conscience and enforces the demands of benevolence; but, when these demands are met and the coffers are yet full, and our paths are strewn with luxury, she teaches that a full portion of our pleasures and the rewards of our industry should be bestowed on the temple of our God. With one who has written eloquently on this subject (Mr. Ruskin), we say, "We cannot understand the feeling which would arch our own gates and pave our own thresholds, and leave the church with its narrow door and foot-worn sill; the feeling which enriches our own chambers with all manner of costliness, and endures the bare wall and mean compass of the temple."

While, then, we urge a liberal expenditure in all cases where it is possible, we would especially urge that, whether appropriations for this object be large or small, they should be expended in such a manner as that harmony and good taste should be preserved; for we hold it possible to construct the simplest chapel as truly in good taste and as perfect in design as the grandest cathedral. Every building should on its very exterior indicate its design. We never confound the store of the merchant with the dwelling of his family (except perhaps in the case of Stewart's dry goods palace); and we never should erect an edifice for church purposes which should be confounded by any one with a schoolhouse or anything else but what it in reality is. As a general thing, we urge the erection of spires as fitting symbols of the Christian temple. The plain tower seems stunted and unfinished without a spire, and it is almost impossible to give the idea of a church without this appendage; and if it be surmounted by the cross it is no less beautiful in our eyes, though no symbol can be more offensive in the eyes of many people. But either the cross or a plain finial should be used in the finish of a church, rather than the common weather-cock.

But we leave this chapter to say a word on other important topics.

LOCALITY.

In considering the subject of church-building, no one thing is of greater consequence than the decision of the question, Where shall it be located? The question, Where shall we build? is even of greater moment than What shall we build? It is the extreme of folly to buy a lot of ground for such a purpose merely because it is cheap, or even to accept as a gift a portion of land which is not eligibly located for the purposes proposed. In the selection of a site, the first thing to consider is, For what purpose do we design to build? Is it a temple of Mammon, to be filled with the tables of the money-changers? If so, place it on the busiest street of the village, in the very heart of the throbbing current of trade, where every surrounding influence is calculated to press the mind into this one idea of gathering gold and heaping wealth together. Or would you build a landmark to catch the eye of every traveller and give direction to his wanderings? Then select the highest summit, as the fathers did in early days, "the bleak hill-top, bald and shorn," and here erect a monument, without regard to the convenience of any man, on a spot to which age can repair only with extreme difficulty, and which shall serve constantly to remind the worshippers who may climb up thither that while "the way to heaven is free to all," there is nevertheless a stern necessity to labor and put forth exertion in order to attain "the prize set before them."

But if it be solely for purposes of solemn heart-worship, then retire from the mart of trade, and from every position to which "ambition, pride, and show" would point, and seek a spot congenial to the humble spirit of a true worshipper of the living God; not far away from the homes of the people, but amid the cheerful and hallowed associations of the dearest earthly joys, and yet away from the noise and bustle and confusion of the

busiest streets of trade. The man of business has an eye to a corner store or a corner lot as most eligible; and, though such a position might be very desirable in some country village for a church, it is most certainly one of the very worst localities in a large town or city, for the noise and rush which invariably are met in such a place, even on the Sabbath, will, to a greater or less extent, disturb the worshippers who assemble there.

If there be a public park or village green within a convenient distance, this would perhaps be the most desirable; but if not, a shady grove, or a lot where trees and shrubbery may be planted, and all the surroundings may be made attractive rather than repulsive, would seem to us to be the next best thing. At least, we can but coincide with the following extract from a recent work on this subject, published by the Congregational Board: "The church, in its site and by its surroundings, ought to be as attractive and pleasant as any spot in its vicinity. It should speak a welcome by its very look as well as by the sound of its bell. It should have such a position, one so commanding and attractive, characterized by such breadth and generosity, and should be aided by such tasteful adornments of architecture and grounds, as not to suffer in comparison with other structures around it." Well do we remember a most beautiful church, thoroughly finished, with a fine clock and bell, and which we have often passed, but which is so badly located that it has been completely deserted for the last fifteen years, and probably *not one* religious service has been holden in it for ten years, But the lot was given for the purpose, and a large donation towards the building, and, influenced by these considerations, the great folly was committed of building where only one man was well accommodated. Far better would it have been to have declined the offer, even at the risk of losing the favor of the most influential man in the parish. Alas! how many churches have died a lingering death, how many to-day scarcely live, because of disabilities imposed upon them by a lack of judgment in those to whom was entrusted the selection of a site on which to erect their temple.

Nothing can be more plain than that a true and enlightened policy would dictate the selection of the best spot, without any regard whatever to its cost. Better far a plain house in the right place, than a costly and gorgeous temple in a poor locality. 'T is not the most gorgeous and elegantly furnished church that attracts the greatest number of worshippers, but it is the one most pleasantly situated for purposes of devotion. We are free to admit that it is always much easier to talk and write than to practise what we recommend; but we do hope to see a greater attention paid to those things which are the very bases of all our efforts. Do not, Christian brethren and friends, give all your attention to the adorning of a house of worship, and at the same time forget that its very locality is its greatest adornment.

ADAPTABILITY.

The purposes to be subserved by the buildings we erect are various. We want not only a shelter from the sun and the storm, but a convenient place for many to hear the utterances of the divine message. This is the first great object in view. Every person should be able to look upon and hear the speaker, and the speaker who occupies the desk should be able to put his eye on every person in his audience; and at the same time the whole arrangement should be such as to give the very best facility to him for speaking with ease to himself and his hearers. The audience-room should be as free as possible from all those ornaments which affect the transmission of sound. Heavy plaster cornices and stucco-work, clusters of columns, and everything of this kind, beautiful as they may be, and very desirable to the eye, destroy to a great extent the clear intonations of the voice, so that it is a question to what extent they should be admitted. Arches in the roof, if they are high, do not so much affect the sound, neither would the other ornaments named if they were carried up far enough; but in rooms of the most common form, with flat ceilings, they are certainly objectionable so far as the ear is concerned, though adding greatly to the general aspect of the structure. For the same reason galleries are always objectionable, unless the house should be very broad, and even then they should be as low as possible, so that the voice may rise above them without being broken in its force and volume. Attention to these things is necessary if we would adapt the house to the purposes of public worship.

Nothing can be of more importance than a good ventilation in every church; but of this we shall speak elsewhere.

Another important thing, which is often overlooked in building, is a good, convenient vestry, and small rooms for Bible classes and business. No church edifice can be adapted to the true idea and purpose of worship that is not thus provided with the necessary accessories of the house of God. We take it for granted, in these days of Sabbath schools, that no associate body of men will so far forget the duty they owe to the young as to neglect to make provision for their religious instruction. Hence we have a necessity for a large and commodious vestry, even if we do not feel such a necessity in reference to the stated religious services of the prayer and conference meetings. To hold the services of the Sabbath school in the audience-room of the church is an impropriety to which the holders of pew property will not usually submit, inasmuch as in most cases there are unruly children connected with the schools, who will deface and injure the furniture and books of the pews. An equal impropriety would it be to throw open to public lectures the body of the church, as many people have so little reverence for the house of God as to indulge their vicious habits even in the sanctuary. No church, then, in our view, is complete without such conveniences as are afforded in a separate room for these purposes. So, too, there should be several small rooms for various uses. Our Methodist friends need class-rooms; our Baptist brethren want retiring rooms contiguous to the baptistry for changing robes, &c. Others need business rooms or Bible-class rooms; and all should have a small retiring room for the pastor, in which to compose himself for the solemn services of his ministry before entering the pulpit. All these conveniences we may have in a properly constructed basement; but it should be usually entirely above ground, so as to be light, airy, and free

from dampness. The idea of building a separate vestry, either away from the church or connected with it, involves a much greater expense with less convenience, and, though strongly recommended by some, is in our view a mistaken idea. But in anywise we conceive it necessary to provide all these things, and, whether in connection with or separate from the church edifice itself, we think no body of Christian men can afford to dispense with them. In the work from which we have already quoted, published by the Congregational Board, we find the same thing enforced in these words: "A church should as studiously and willingly provide all those conveniences which will promote its welfare and efficiency, as our great business corporations do the various offices and equipments conducive to their advantage. It is the true policy and the true economy every way to do so. The first requisite of a workman is to have a place to work and tools to work with; and just in proportion as place and tools are properly adapted to the work in which he is employed, will be his success, and his advantage, also, over those who pay less regard to such considerations. When, therefore, the church, the spiritual body of believers, undertakes to secure to itself a house of worship, it should regard the matter with a comprehensive view, and make a resolute endeavor to procure an edifice as complete as possible for its appropriate purposes."

Another thing which we recommend may doubtless be considered by some an innovation, though we are glad to find there are some who have adopted the idea;—we refer to the convenience of the preacher and the effect of his preaching. The custom has been for long years to build a narrow box against the back wall of the church for a pulpit, and here the minister has stood to read forth to the people an essay which he had prepared, and under the influence of which very little good has been or could be effected. What effect could be produced in the senate or at the bar were such a custom to obtain? What lawyer would hope to gain an important cause were he thus boxed up in a narrow space in which he could scarcely turn himself? While the writer himself must plead guilty to the use of the manuscript, he would nevertheless avow, as he often has done, his readiness to throw away the manuscript whenever he can find in the place of the old-fashioned pulpit a good broad platform on which he may find room to move, and, by the use of the appropriate "arts of the orator," strive to enforce the appeals of divine truth and plead with men to be reconciled to God. In this point we say there is a lack of adaptability in our churches to the object which is had in view. Whatever arrangement or facility can be introduced which will give additional force to the ministrations of the Word, ought to be attended to, whatever may be the expense which it will involve. In this case, however, it is a saving of expense. No greater folly can there be connected with the erection of churches than to expend five hundred or a thousand dollars, as is frequently done, for a rosewood or mahogany pulpit, when the plain, simple platform is, after all, much better in every way. We would earnestly recommend the candid consideration of this thing to every minister and to building committees. Let a platform be raised, not over three and a half or four feet from the floor, ten by sixteen feet, or as near this size as may be, entirely open, or with a balustrade twelve inches in height surrounding it. On this platform a plain table for the Bible, and a few chairs for such as may occupy it, and we venture to say that a fair trial will satisfy both preacher and people that this is far better than the old and common methods of arranging these matters. For our Baptist brethren we would construct a baptistry beneath the platform, and for our Episcopalian and Methodist friends a spacious altar in addition, or, if this would require too much space, the balustrade may be the altar-rail, approached by broad steps from the aisles.

But there is one thing more which we must not omit from this chapter,—adaptability to the promotion of harmony in music. Music has become, and with great propriety, an essential part of public worship. No service can be complete where the human voice is not attuned to praise. "The pealing organ's notes" are a mere mockery if there be no soul in the strains which flow from beneath the musician's touch. It forms a glorious accompaniment to the human voice, but, without this, it is valueless for all purposes of worship. But too often we construct our churches without reference to the effect of music. We crowd the orchestra together in a narrow gallery over the vestibule, and push the organ back into some recess, and enclose it in a tight case, in such a manner as to deaden and destroy all the life and melody. Now we would urge that the very best arrangement is to have the orchestra as near the main floor as convenient, say about the height of the speaker's platform named above, so that there may be height for the music to swell in, and, instead of enclosing the organ in a tight case, let it have a light open-work screen, through which the softest strain may diffuse itself to all parts of the house. Many of our churches have been so constructed as that the music from the choir seemed to flatten against the blank ceiling above them, and came down dead and lifeless to the ears of listeners, when in fact the fault was not so much with the singers as with the house. But we need not multiply words on this point. We leave this chapter, hoping that the few remarks we have made will lead all who contemplate building to give due attention to those things which best adapt a building to the purposes of public worship, and render it most convenient for all the various uses and usages to which it is to be applied.

CONSTRUCTION.

Whatever may be the material employed in building, great care should be taken so to adapt it to its uses as that the design may not only be well elaborated, but also may have a good degree of permanence. In these days of haste, walls are erected too frequently with so little regard to the permanence and solidity of the whole structure, that in a few years they must be strengthened, or taken down altogether. From the window near which we are now writing may be seen a church, nearly new, and of somewhat costly design, whose steeple leans so far from the perpendicular as to cause great apprehension that the next high wind might throw it over upon the roof. The cause of its instability doubtless lies in the imperfect construction of those parts on which the tower and roof are based.

The mode of construction will of course depend in a great

measure on the material which we employ; and we contend that it is not so much a question of economy as it is of fitness and propriety, what material shall enter into the composition of the house which we build and dedicate to God and his service; for the difference between the solid stone and the flimsy scantling in actual cost is not so great as many would suppose. Let us look for one moment at the difference. A building of wood, erected hastily, of half-seasoned stock, its frame of the smallest possible dimensions, covered with hemlock boards and clapboarded in the usual form, may serve for seven or ten years the purpose for which it is designed,—but very few modern-built wooden churches do more than this; then they must be remodelled, enlarged, or in some way cut up, so as to destroy what little strength and stability they had originally, and after a few more years must fall and give place to another; and during the time in which they are in actual use they must be painted over once in every two years, at a large expense. On the other hand, if more liberal ideas prevail, a church will be constructed of stone or brick (stone being preferable), which will last a hundred years, never being in want of paint on the exterior, and costing but a trifle more originally than the wooden building. Surely the difference of one or two or five thousand dollars ought not to be a question debatable at all in such a connection. To say nothing of the economy, the idea of propriety itself would urge the selection of stone as the material for all our churches. And we may urge this thing the more because there is no material so widely diffused over all the land as this. Our timber-lands are being destroyed, the prices of lumber are being enhanced with its scarcity, and we must send long distances to obtain dimension stuff suitable for large buildings. But under our very feet we find the best material, which may be blown up at small expense, and with little labor be fitted for the walls of any edifice; and, with all due deference to the taste of others, we contend, even in its rough, unhammered state, making the most beautiful wall of any known material. In New England we have the beautiful blue granite of Quincy and Rockport, the rough Roxbury stone, the brown freestone, and the beautiful Vermont marbles, either of which are beautiful enough for a palace or cathedral when properly laid; and in other parts of the land there may be found other varieties of stone as suitable as any of these. What folly, then, to build a frail structure, which the winds may fell or the flames destroy in an hour, and which, while it stands, is a constant expense, when nature herself lays at our doors an imperishable stone, which, once laid up properly, needs no repair and involves no new expense.

There has of late been manifest a disposition to build houses of brick, and so disguise them with plaster as to form a sort of imitation of freestone. No greater mistake was ever made, in our opinion, than this; for, in the first place, it deceives nobody, and if it did, nothing is gained by it; and in the second place, it costs more than the stone itself; and beside all this, it will not stand our northern climate more than five or six years, and when it begins to peel off the whole must come, for it cannot be patched up to look as at first. There is before us at this present writing a fine specimen of this work, a church costing some fifty thousand dollars, having been built less than four years, and already beginning to peel off in more than one place. It stands before us a gorgeous lie, and the wind and storm are commissioned to expose it to all who pass by.

Now, if we turn to the interior construction of our churches, we may remark, as in regard to the exterior, that economy and propriety both suggest the use of a material such as will not require a perpetual whitewashing and painting. We have an abundance of beautiful woods for finishing, some of which, to be sure, are expensive, but others of which are cheap and easily obtained, and which need no painting. What more beautiful than the common chestnut, or the live oak, or the black walnut? And yet most men will rather pay fifty dollars a thousand for pine boards, and finish with these, covering over their imperfections with two or three coats of white lead and oil. Either of the woods named above are beautiful with no other application than a coat of varnish, and even the pine itself is much handsomer simply varnished than when painted. But if we must paint, let us not, "for conscience' sake," try to deceive ourselves or others with a bungling attempt at imitation of rosewood, mahogany, or marble; and at the same time let us beware of blinding ourselves with a staring white on walls and pulpit, but rather adopt some modest, unobtrusive shades of color, two of which combined will give a sufficient variety and relief to the view of the whole interior structure.

HARMONY.

Every part of a church should harmonize not only with its design as a place of worship, but also with every other part of the building. The interior should harmonize with the exterior; the pulpit with the pews; the gallery with the main floor; not only as regards the style of the design, but also as to the tone of coloring. To illustrate our meaning: A certain church near us has a mahogany altar-rail, a pulpit in imitation of rosewood, with crimson trimmings, white paint *on* the pews and drab cushions *in* them, a yellow panel back of the preacher, green blinds to the windows, and a mahogany organ-case with gilt pipes in front. No one thing in the whole house harmonizes with any other thing, except alone the altar-rail and the organ-case. So we sometimes see all shades of color in the cushions of the pews, red, green, blue, drab, mingled indiscriminately through the whole, while a carpet of flaming pattern covers the chancel and one of an entirely different character is on the aisles. This is all wrong. There should be harmony of tone and coloring throughout as well as of design and pattern. We may have an almost infinite variety as regards the desirable effect of beauty, fitness, and taste, without discords of this character. We have already in the preceding chapter spoken of the materials for constructing such edifices as are suitable for places of public religious worship, and we contend that beauty and harmony of design are most apparent in those buildings constructed of the most solid and most simple material. Just as the frailty of the tender house-plant detracts from its beauty, and the pale, sickly look of the delicate-featured beauty detracts from our admiration, so does the frailty of any building detract from the

harmony and good taste which otherwise might be manifest. So whatever of ornament is added to any building should be of like material with the building itself. We think there is little danger of adding too much by way of adornment, and yet it is sometimes done. Whatever is in excess by way of ornament destroys the whole design and changes ornament into defect.

There should be harmony, too, in all the surroundings of the place of worship. A softened and soothing influence is felt upon the heart as we approach the house of God when it is surrounded by nature's beautiful adornings, — when we find it located amid green trees and bright flowers, in a quiet, shady grove, or retired from the hurry and bustle of the busy street. To us there seems a harmony and propriety in locating the church, as in other days, in the midst of the "God's acre," as the fathers were wont to term the burial-place of their loved ones. Solemn associations cluster around such a spot; the busy world is excluded; quietness and solemnity mingle with devout gratitude, and the thoughts return from their wandering when we stand among the dead and commune with those who have passed on before us and whose footfall has died on our ears. If a man is ever devout, it is when he is surrounded by associations which enforce on his mind the idea of his dependence on God. But how can he be devout amid the rattling of carriages on the busy street? How can he restrain his thoughts and cluster them around the little point of present duty when every sound of the street falls upon the ear and breaks in on his quiet reverie? 'T is almost impossible. All the surrounding associations, then, of the church of God, should harmonize with the idea and design of a true heart-worship.

SUGGESTIONS.

There are various things of importance which are too often overlooked in the desire to reduce the expense of building to the smallest possible figure. To some of these we wish to call attention: and first of all to the importance of a full set of *Working Drawings*. It is not enough to decide on the size and style of your building, but true economy will direct you to apply to some competent architect for all the drawings and specifications necessary for a full understanding of what you are going to attempt, before you strike the first blow. It will never do to trust the matter to the taste and skill of your builder, for there are very few of those who call themselves practical men and practical carpenters who are competent to design with taste and skill, and to combine all the details of an edifice in the best manner, and in right proportions, as we have said in a former chapter. A carpenter may be able to hew well, to saw straight, to plane smoothly, and to put his work together in a workman-like manner; but his business is to carry out plans, and not to make them. The combination of lines in order to the most pleasing effect, the grace of an arch, the effects of light and shade, the strength of different materials, all these are in the province of the professional rather than the practical builder, and to these points he devotes the entire energy of his mind and his whole time and attention. It is therefore to be supposed that he can do this work better than the other. Nothing will be likely to escape his mind that is essential to the completeness of an edifice, either as regards its beauty, its convenience, or its adaptation to the purposes for which it is to be erected. But if the whole be left to the carpenter, who has never had the opportunity to study thoroughly the principles of design, in most cases there will be serious defects. Of course his own interest will have something to do with the selection of materials and the disposal of the whole work. What would be considered essential by an architect may be omitted: cheaper stock be selected; the ornaments and mouldings most easily worked, rather than those most appropriate, may be used; and in various ways there will be a liability to change and alter from what should be to what is most convenient. But we are happy to know that there are but few of this class of builders.

Most men will prefer to have the advice of a competent architect, if they have to pay the bill themselves, rather than attempt to estimate upon a job without full plans and specifications, and knowing that without a thorough knowledge of the science he cannot produce the fine lines and subdued effects of the best specimens of the different styles of architecture. Such a one will be slow to make an attempt which will almost certainly result in a complete failure. Hence we urge upon all committees the great importance of securing such drawings and such specifications as shall fix the whole arrangement definitely in the mind before commencing the work.

Prospective Demands should be considered in the very outset. The practice which has become so common of building small houses, with the idea of enlarging them whenever more room is needed, is one which should be condemned. Houses which are either made longer or wider by cutting in twain and inserting a section can never be made to look well; the proper proportions of the building cannot be maintained, and all harmony is lost at once. If it be proposed to draft a plan in view of subsequent enlargement, then the first plan must be a discord which never can be brought into harmony until the enlargement is effected. It is altogether better not to build so hastily, to wait until you are able to build what you really will need, rather than to throw away money on what will simply answer for the present. Another difficulty which presents itself as an argument against such a course lies in the fact that it is almost impossible to insert a section or add to the main body of an edifice so but that, like a patch on a coat or a piece of new cloth added to a garment, it will always be manifest. And certainly there is no one thing that detracts more from the general taste and beauty of a room than the marks of such an addition. We therefore urge the building of a church large enough to meet the prospective demands of the people who are to occupy it.

Basement Accommodations. — We have already referred to the necessity of providing suitable rooms for all the various purposes demanded by a congregation of worshippers, — class-rooms, prayer and conference rooms, retiring rooms, &c., — and we have recommended, as a matter of economy, that all these should be under the same roof. We would not, however, be understood to favor what have sometimes been called "underground vestries."

All basements designed for such purposes should be entirely above ground, otherwise it is often impossible to protect them from dampness and an unhealthy atmosphere. At least eleven or twelve feet should be allowed for the height of such rooms, and this, if the room above be properly proportioned, will not appear awkward or otherwise than in harmony with good taste. We have, however, given two designs in which the basement story is lower than the surrounding surface. If such a plan be adopted, there should be a cellar of three or four feet in depth beneath the basement floor, in which case, with proper openings to the air, the whole basement may be free from any unpleasant or unwholesome dampness.

Ventilation.—Too much stress cannot be laid upon the idea of a proper ventilation for any building; but we conceive that there is a peculiar necessity for the thorough ventilation of all our churches. The simple sliding of a portion of the windows is not sufficient; and indeed this often becomes a greater evil than that which we desire to remedy; for, creating a draught of air through the room, it becomes a fruitful source of colds, if not of greater evils. Neither do we subserve the purpose by opening one or more places in the upper ceiling of the room; for if there be no opening to the outer air there is no real ventilation. Even when this is done we may breathe over and over the atmosphere about us, till we have exhausted all its vitalizing property, and perhaps wonder, as we retire from the church, what it is that always makes us so drowsy and lifeless when we go to church. Many a man has charged his pastor with being a dull preacher, and attributed his own listlessness to the sermon, when in fact it was his own fault, because he and those associated with him have never attended to the matter of procuring a pure atmosphere within the walls of the house of worship. Perhaps no one thing so exhausts a preacher, and renders his ministrations dull and without point and life, as the attempt to speak for a half-hour in a vitiated atmosphere. And, in addition to all this, how many there are of those who have the care of our church edifices that shut them up immediately the Sabbath service has closed, and never open them again until the hour of service on the ensuing Sabbath. All the complaints of drowsiness and heaviness and headache, or at least nineteen twentieths of them, are chargeable to this one thing. Indeed, the whole moral influence of the Sabbath service, as well as the comfort of both preacher and people, is affected by it. We know of no better system of ventilation than that to which we call attention in connection with our tenth and eleventh designs, plates 22 to 27. In these plans the buttresses are hollow, each forming a shaft, with an opening at the top, under the offsets, to the open air, and with openings by means of registers near the floor and ceiling of the audience-room. Unless the buttresses should be uncommonly large, the interior of the shaft must be small; but where there are several of them on each side, they will be found to afford a sufficient quantity of pure air, and to carry off the impurity that otherwise might accumulate. Where there are no buttresses, open pilasters upon the interior of the house may subserve the same purpose, the boxes being carried to the plates and opening to the outer air under the eaves of the building. But we cannot more minutely dwell upon this subject. Every architect will make this an important consideration in building, and be able to make such suggestions as experience has proved to be the best and most practicable.

On the subject of *Heating* a church in cold weather, we need not say anything, as by this time every man must be convinced that the use of the furnace, properly constructed, is beyond controversy the most feasible plan, not only giving a more uniform temperature, but also removing that greatest of all deformities, a black and rusty stove-pipe, from the sight. A variety of furnaces are in the market, from which a selection may be made.

Light.—Another very important matter in the proper construction of a church has reference to the admission of light. We need light as well as air; but it is by no means necessary that we should have the same quantity of it as for many other purposes. We shall, however, contend that a sufficient quantity of light is needful to give a cheerful aspect to the whole interior of the edifice. There may be for aught we know a great deal of poetry in the dusky gloom of old cathedrals, and in the "dim religious light" of the ages when the ideas of religion were associated with monkish cloisters almost exclusively; but in these days of a more cheerful and hopeful Christianity, when the purer forms of religious worship and the liberty of a nobler faith have dawned upon us, we do not need to excite our superstitious emotions by contact with gloomy associations; rather, we hail the light, in all its diffusive beauty, as an emblem of our holy hopes. Still, we would to some extent subdue the glare of the mid-day brightness, and by proper shades or lattices so arrange as to admit or exclude it. It is a great mistake, of which no architect in these days will be guilty, to place windows in the wall against which the pulpit is placed, and we think it almost as great a mistake to admit it from the opposite end. Certainly a sufficient light can usually be had from the sides of the building.

Construction of Pews.—With all due deference to the opinions of others, we believe that the usual style of building pews is not the best, especially where, as in many congregations, a large portion of the people kneel in time of prayer. The practice of turning round to kneel in the pew is always awkward and inconvenient. If the upright division which separates two pews, and usually comes close to the front of the seat, were placed directly under the centre of the seat, there might be allowed room for a kneeling-board, so that all could kneel conveniently toward the minister while he vocally addresses prayer to God. There are some objections, perhaps, to such a method of constructing pews, and we would not be strenuous in regard to it, but simply suggest such a change, that those who build may consider it. We have already spoken of the convenience of arranging the pews in a circular form, or rather in a segment of a circle. Such an arrangement involves nearly double the expense of seating the house, but is so much more desirable that we think most societies will adopt the form rather than the straight pews. We have, however, suggested another form in plate No. 10, which comes between the two, giving the advantage of the one without adding greatly to the expense of the other. We have also given drawings of several different styles of pew ends. But beyond all other arrangements, though rather more expensive, we greatly prefer, both for beauty and convenience, the newly constructed church sofas, which have been introduced into a few churches in New England, and which we think will yet supersede all other plans for seating churches. We cannot now refer to the manufacturers of the article, but will endeavor to obtain the information for any who may desire it.

Galleries. — It will be found oftentimes desirable to construct galleries on three sides of the audience-room. In this case care should be taken not to have them too wide nor too high. It will hardly do to gain room above by overshadowing the pews below, as is done if the gallery is too broad; and, unless the house itself is wide, the whole arrangement is awkward and unsightly. The whole construction of a gallery should be light and tasteful. The columns by which it is supported should be small, so as to interrupt the sight as little as may be. The parapet should not be too high, if possible not over thirty inches, or thirty-six at the extent; and if a light iron panel of fanciful design is used in place of the solid wood it will give a much more graceful effect to the whole. The seats in the gallery should be constructed in equal good taste and convenience with those below, in which case it will be found that the front pews are in fact more desirable than any of those below, and will sell or rent to as good advantage as any in the house.

Our plans generally contemplate an organ loft, as it is usually termed, or, in other words, a choir gallery; but this is all wrong in reality. The true method is to have the organ facing the congregation, and not behind them, — back of the speaker's platform, and not too high above it, so that all can easily see the chorister, and the whole congregation can join with him in chanting the hymns of adoration and praise. But with many this will seem like an innovation. The time, however, it is to be hoped, is not far away when congregational singing will be introduced very commonly among our people.

We have thus briefly noticed some of the points most likely to be overlooked in the construction of houses of worship. They may seem to be minor points, and so they are; but it is the little things, the conveniences and comforts, the appropriateness of every part to the great design which it is to accomplish, that gives to the place of worship a power and influence of its own, aside from the ministrations of the pulpit. It is the little specialities of the place which make their appeal to the instincts of a higher nature. The baptismal font and the table of communion have each a living voice, and a solemn hush comes over the spirit when we come within the sphere of these voices. The busy activities and the engrossing thoughts of worldly business can hardly dare intrude even on the week day into the solemn sanctuary, because it is a place unlike all others, — it is the house of God.

Organs. — We should be glad to add a few words upon the choice and selection of church organs; but this does not really come within the limits of our design. The style of the case or screen, however, is a matter to which notice should be called. In every case there should be care to have the same general style carried out in all parts of an edifice: the organ should correspond in style with all the other arrangements of the house. Perhaps we may venture to say that it is a great mistake to buy a second-hand organ because it is cheap. It may be cheap, and yet not economical. Many of the instruments thrown into the market are entirely worn out, with pipes not much thicker than paper, and yet looking as solid and substantial as ever. It may not be generally known that pipes wear out by the simple passing of wind through them; yet such is the case, and those who purchase should be careful not to be deceived. Better far to buy a new instrument, even if the cost be a trifle more. Care should also be taken in adapting an instrument to the size of the house: one too large is about as bad as one too small. We append a description of an organ in every respect large enough for a church seating from six hundred to one thousand people.

It should have two complete manuals, from CC to G in alt., fifty-six notes, and a pedal organ from CCC to D, fifteen notes, and the key-board should project at least two feet in front of the instrument. It may embrace the following stops:

Great Organ. — 1. Grand Open Diapason. 2. Dulciana. 3. Viol De Amour. 4. Clarabella. 5. Stop Diapason Bass. 6. Principal. 7. Hohl Flute. 8. Twelfth. 9. Fifteenth.

Swell Organ. - 1. Bourdon. 2. Open Diapason. 3. Viol Di Gamba. 4. Principal. 5. Hautboy. 6. Tremulant.

Swell Bass. — 1. Stopped Diapason Bass.

Couplers. — 1. Swell to Great. 2. Pedal to Great. 3. Pedal to Choir. 4. Bellows Alarm. 5. Pedal Check.

Pedal Organ. — 1. Double Stop Sub Bass, sixteen feet.

Such an instrument can be had, of the very best manufacture, for one thousand dollars.

Builders' Specifications and Contracts. — Every building committee should see the importance of securing very thorough specifications of all the work to be done before making any contract. It will not do to trust to any man, and say, "O, he is an honest man, and will do the fair thing;" but, from the lowest stone of the foundation to the top of the finial, everything, small and great, should be included in the specification. If this be not done, and any alterations should be made by the committee after the work is commenced, the whole contract is vitiated, and if the contractor finds that he is not likely to make a good job for himself, he may compel the committee to pay for all materials and allow him and his men the regular wages, as though they had contracted to work by the day. All plans should be drawn long enough before commencing the work to make all alterations on paper before contracting with the builder. And in every case it is better to insert in your contracts the clause, "To be finished in a faithful and workmanlike manner, and to the satisfaction of the architect," — not of the committee, but of the architect, for then you give authority to one who understands how the work should be done to change whatever is not in accordance with the specifications. Forms of specification and contract are so common that we need not insert them here.

Lightning Rods. — Too great importance cannot be attached to the matter of protecting churches from the effect of lightning. The occurrence of thunder-storms and discharges of lightning cannot be prevented, but they may be disarmed. The principle of lightning rods is in all modes the same, and consists in offering to the lightning a conductor for which it has a greater affinity than for the building which they are intended to protect; but this object is much more completely secured in some modes than in others. A perfect lightning rod must have the following requisites: 1st. A continuous close connection from the top throughout the whole track to the earth; 2d. As many *sharp* points as possible; 3d. These points should be presented at different places over the building; 4th. The points and rods should be arranged on the building with especial reference to the metal both inside and outside of the building, and also to the various discharges of lightning, and should connect in the earth with some good conductor. This last requisite is one that depends entirely on the skill and fidelity of the contractor. The other requisites are best obtained by the following mode: The

rods are square, thus presenting four continuous sharp edges; the different pieces of which it is composed are screwed firmly into a nut, having a nice discharging and receiving point, of metal, not liable to get out of order; thus making in effect a continuous rod throughout, and at the same time offering an easy reception of the fluid at any part throughout the whole track. Rods are also placed at two or more parts of the building, according to its size, position, and the surrounding objects, and connected by other rods, and prominent points are put in all other exposed parts of the building, which points are connected with the main rods.

Some other systems are in use in this vicinity, but they are all less perfect than the above. Those systems which use the hook-and-eye joints for connecting the rods are essentially defective, for the connection is never in such rods very close, and when the lightning passes there must of necessity be explosions at every such joint. Glass insulators are adopted in some systems, and the systems recommended for that feature. These might be used if any advantage could be derived from them. Their liability to breakage is obvious. In a building which had them and which was struck, it was found that they had all been broken. But, moreover, glass is a non-conductor only when dry, and then not a perfect one. It is only effectual in small experimental discharges through a dry atmosphere. To a stroke of lightning its resistance would be absolutely too small to be appreciable.

This is fully shown by the fact that in almost every thunder-storm the electric fluid passes over the glass insulators on telegraph poles, to get to the earth over even so poor a conductor as the posts, often shivering great numbers of them at a stroke. In consequence of this, in India they dispense with telegraph insulators entirely.

Dr. Franklin advised its rejection. Moreover, it is sometimes the case that lightning needs to be drawn from within the house to the rod, and in such case the glass (if it has any effect) tends to prevent this result, and compels the lightning to pass through the house instead of leaving it for the rod. In Dr. Franklin's Works, by Sparks, vol. v., p. 417, we read the following language:

"The rod may be fastened to the wall, chimney, &c., with staples of iron. The lightning will not leave the rod (a good conductor) to pass into the wall (a bad conductor) through those staples. It would rather, if any were in the wall, pass out of it into the rod, to get more readily by that conductor to the earth."

Notwithstanding these facts, which are well known to all scientific men, the impression is very general, among all persons not conversant with the laws of electricity, that glass is a protection against lightning; and advantage is taken of this to foist on the public rods with glass holders. Hence we have inserted the above remarks to guard against that error.

Any person who has examined the effects of lightning on buildings must have noticed the fact that all the metals of any extent outside, and often inside of the building, form a conducting medium for the electric fluid, even when in detached pieces, and the fluid will jump considerable distances from one piece to another, fracturing the building between. These and many other effects are in strict accordance with the laws which govern the fluid. The building itself, of whatever material, becomes electrified by induction, and in most cases conveys away a portion, according to its capacity and circumstances.

In some discharges the moisture in the atmosphere is the medium for the greater part of the fluid, giving it a luminous appearance. Persons and animals have been prostrated and killed near and at considerable distance from the building struck. Such is the *pervading nature* of the fluid in discharges of lightning that no substance known as a non-conductor can be of any service as a protection; on the contrary, a full supply of metal, of any kind, *judiciously arranged* by a person qualified, may be relied upon to protect life and property.

Electricians in Franklin's time understood this, and experience has proved that it is of the greatest importance that lightning rods should be judiciously connected with such metals, and be arranged over the building with especial reference to them and to all the ever varying circumstances, — to do which is difficult, even for a person of the most experience. Hence the uselessness of glass, which only increases the expense, and, if fully carried out, the danger.

In the year 1772 the Royal Society of London appointed five of the best electricians of the age, viz., Benjamin Franklin, H. Cavendish, William Watson, J. Robertson, and Benjamin Willson, a committee to examine the situation, structure, and circumstances of the powder magazine at Purfleet, with reference to the best mode of protecting it from lightning. In their report they say, among other things, as follows: "Each rod in passing above the ridge should be strongly and closely connected by iron or lead, or both, with the leaden coping of the roof, whereby a communication of metal will be made between the conductors of each building for the more free and easy passage of the lightning. We are further of opinion that it will be right to form a communication of lead from the top of the chimney of the proof-house to the lead on its ridge, thence to the lead of the corridor, and thence to the iron conductors of the adjacent end of the magazine." They further say: "To these directions we would add a caution, that, in all future alterations and repairs of the buildings, special care should be taken that the metallic connections are not cut off or removed."

The above system of protection is carried out in all its parts in the lightning rods and conductors of Mr. William A. Orcutt, of No. 77 Cornhill, Boston, to whom we refer those who wish such protection for the churches in which they are interested.

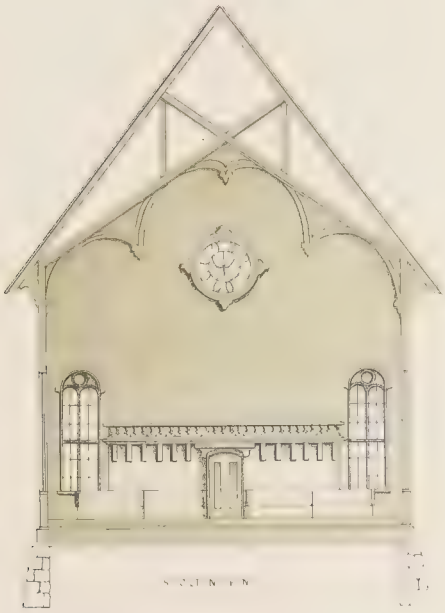
With these brief suggestions, we now present our plans, with short descriptions, hoping they may meet with favor from those who examine them. G. Bowler.

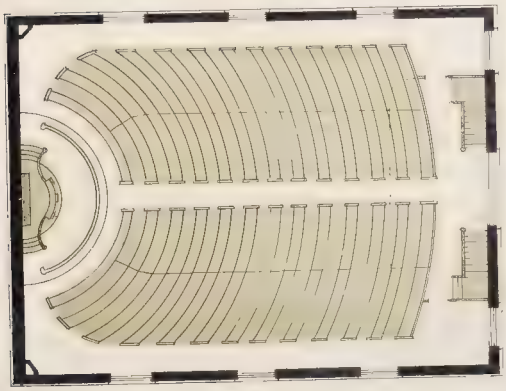
Roxbury, *May* 18th, 1856.

DESIGN No. 1.

This neat little chapel was originally designed by the author of this work for the Superintendent of the Massachusetts State Reform School for Girls. Neat, chaste, and ornamental, it commends itself at once for its simplicity and its beauty. The little bell-turret which surmounts it at once defines the character of the building; and such is its general appearance, that no one would mistake it, simple as it is, for anything else than that for which it is designed. Its size is thirty-six by forty-eight feet, and twenty-five feet post. Its proportions may, however, be retained if a larger space than this needs to be enclosed for the accommodation of the congregation. As it is, it will seat two hundred and fifty persons. The sectional view represents a small gallery with a bracketed entablature, and also shows the beautiful rose window which adds so much to the outside finish. The interior finish rises nearly to the ridge of the roof, giving a lofty appearance to the room, adding greatly to the ease of the preacher in his address, and to the effect of music. The seats being arranged in semicircular form, every person will find himself eligibly located to see and hear the speaker. The outside aisles next the wall give convenient access to the windows, and although a little more room is required than where the pews abut the wall, yet the greater convenience will amply repay the loss of the little room required. The outside of the house, as the plan designates, is to be boarded vertically, the joints being closely covered by battens. As a whole, we think this plan will commend itself to the good taste of any congregation wishing to erect a small chapel or lecture-room. The entire cost of the building ought not to exceed fifteen hundred dollars in any locality, while in some places twelve hundred would finish it complete.

ELEVATION N° 1



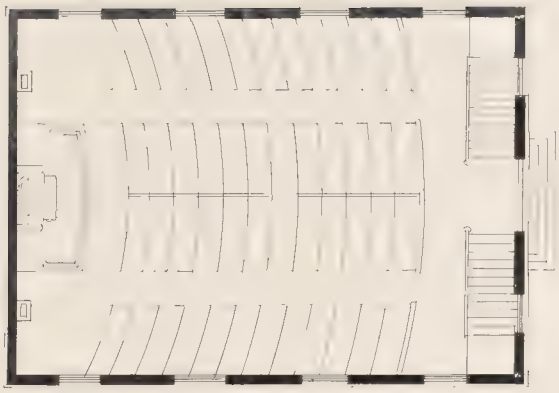


FLOOR PLAN No. 1

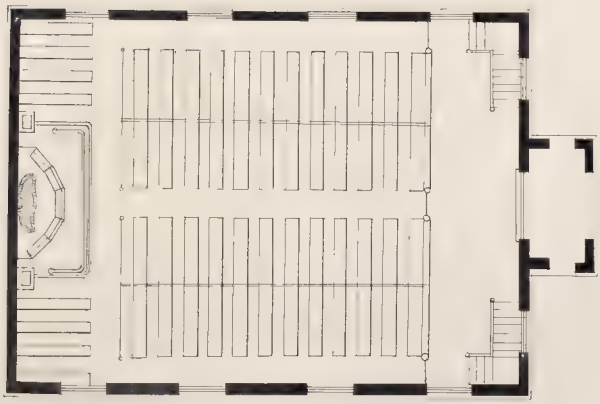
G. Bowler Arch.

DESIGN No. 2.

This design for a church in the rustic style will commend itself, we think, to the good taste of all men. Standing by itself, as any village church must do, there seems a necessity for something in the general aspect of the structure which will attract the attention. A perfectly plain building, in a situation to which this building would be adapted, would appear more than plain, rather, absolutely naked; but here the projecting roof, with its ornament, at once relieves the eye; there seems a look about the building as though it were finished. The vertical lines of the siding give the appearance of height. The peculiar form of the window-heads, with their caps, also adds greatly to the general contour of the whole exterior; while the turret, with its gables, complete the whole structure. The size of this building is thirty-eight by fifty feet, the lower story finishing eleven feet in the clear, and the audience-room finishing eighteen feet at the sides and twenty-four in the centre. In the lower story may be finished a fine lecture-room twenty-eight by thirty-six feet, and two or more Bible-class or business rooms, such as are needed in every church. In the audience-room the pews will be arranged as in Plate No. 5, fifty-two in number, seating about three hundred persons. A gallery should extend across the front end of the room, over the entry, with flights of stairs over the stairs to the entry from below. The whole arrangement is simple, neat, and convenient. If a larger number of pews should be desirable, the building might be lengthened to sixty-two feet, making the number of pews seventy-two, and accommodating about four hundred persons. Such an extension of its length would add six hundred dollars to the expense of the house. The estimated expense, in its present form, is twenty-six hundred dollars. This, of course, is not reliable for all places, but it will not probably cost more than this in any locality.



AUDIENCE ROOM FOR No 2



AUDIENCE ROOM FOR No 3

J. H. McPherson Lith Boston

DESIGN No. 3.

A SMALL, perfectly plain, yet chaste and pretty chapel, designed for a small congregation, of limited means. Without offering any great pretensions in its outward appearance, there is, nevertheless, something in this structure which is pleasing to the eye. Much ornament would be out of place here; but the heavy finish of the little porch in front, with the moderately projecting roof, with its supports, give a sort of dignity to the whole appearance, while the hood moulds of the windows relieve whatever nakedness might otherwise appear upon the sides of the building. The size of this building is thirty-eight by fifty, the walls being twenty feet high, and the finish in the centre twenty-four feet. This chapel has fifty-six pews; will seat three hundred persons below, and fifty in the gallery, which covers the entry. The sectional view given on Plate 6 shows the altar-rail and pulpit, with a slightly depressed recess, surmounted by a hood moulding, which gives a pleasing effect. The projection of the chimneys may be made an ornament, rather than a defect, by breaking mouldings around them, as in the plan, representing a plain capital to a column. The estimated cost of such a building is eighteen hundred dollars. In Plate No. 9, we have this same building raised up, and a basement constructed beneath it, and also a small tower, changing its character from a simple chapel to that of a small and neat village church. The cost of these changes would not be far from eight hundred dollars.

Section of No 1

ELEVATION No 3

G. Bowler Arch.

Engraved by Robert Dunn

J. H. Robertson Lith. Boston

DESIGN No. 4.

We have in this design a church of the Anglo-Italian style. Its size is forty by sixty-six feet, with a tower projecting eight feet. The whole height of the wall is thirty-eight feet, giving a clear finish of twelve feet for the lecture-room, and twenty-four feet for the audience-room. The extreme height of the steeple, from the ground to the finial, is one hundred and twenty feet. A band runs round the entire wall, with blocking beneath it, at a distance of twelve feet from the underpinning, which, together with the blocking of the cornice, gives an air of elegance to the structure. The circular window and door-heads add a pleasing feature; and the simple finish of the tower, breaking into a semicircle to make room for the clock-face on either side, is a still greater addition to the general view; while the peculiar method of finishing the spire completes a design, which, for simplicity and economy of cost, united with beauty of appearance, we think can hardly be surpassed. Such a building as this would do honor to any village in our land, and in any situation would maintain its simple pretension to good taste and beauty. Amid a cluster of spreading forest trees, in some retired portion of the village, or on the village green, it would prove attractive to both old and young, — not destroying devotion by fostering pride, but aiding in its simplicity the simple devotion of an humble heart. The same simplicity which marks the exterior should be maintained in the interior. A neat plaster cornice, a simple recess in the wall back of the pulpit, painted in fresco, a plainly panelled gallery-front, with simple blocking and mouldings, constitute the entire adorning, if we except the window architraves and the altar-rail and pulpit, which may be slightly ornamental without violating good taste. This church will seat about five hundred persons, and can be built for about four thousand dollars.

SIDE ELEVATION

G. Bower Arch.

FRONT ELEVATION

G. Fowler Arch.

Plate 10

DESIGN No. 5.

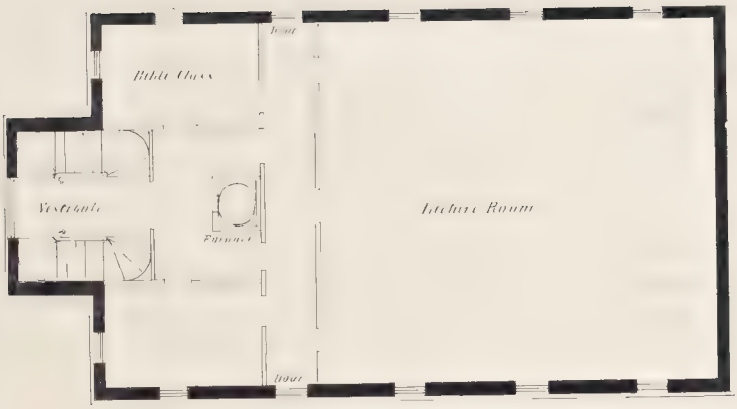
We present in this plate a perspective view of a church in a modified form of the Gothic order of architecture. It is calculated to meet the wants of those who have good taste but scanty means. We have therefore adopted the plan of vertical boarding, giving the appearance of height to the structure and affording the opportunity of ornamenting the exterior at small expense. The boards of the siding should be matched and thoroughly nailed, and should not exceed eight inches in width. They may be left in their rough state if desirable. The basement is entirely above ground, twelve feet in height; the whole post is thirty-six feet. The size is forty-four by sixty-six feet, seating about four hundred persons. The clock tower is finished in a style more common in England than with us, but which serves to give a very good finish without involving great expense. The extreme height of the structure is designed to be one hundred and thirty feet. The windows are somewhat peculiar in form, set with diamond-shaped panes of glass. The interior will be finished with chestnut and varnished without painting. The roof will be slightly arched and finished with ribs and mouldings, giving the effect of more elaborately-finished ceilings. The cost of the building will be sixty-eight hundred dollars.

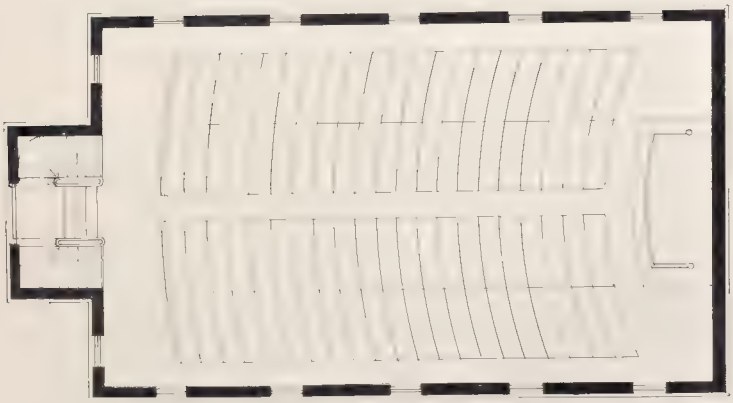
J. Bowen Arch.

DESIGN No. 6.

Scale of 12 feet to 1 inch.

A VERY large number of our country churches are built upon a model somewhat similar to this which we now present. Plain, neat, chaste, appropriate to almost any situation, a style similar to this is perhaps the most practicable for societies in moderate circumstances. But, while there are such countless numbers of buildings in a similar style, there is also an almost infinite variety of simple ornamentation applicable to the style, and which serves to break up the monotony of the design, when properly arranged and applied. The drawings here given are slightly different from anything heretofore presented. In the front elevation the pilasters and the panelings of the projection have a very good effect: the ornamented capitals of the pilasters, the blocking of the cornice, the simple balustrade beneath the clock, the carved supports of the dial, and the pilasters of the third section, with the broken cornice above them, all serve to give a good appearance to the structure. The size here represented is forty-six by eighty-two feet and thirty-six feet post, the whole height from the ground being one hundred and forty-four feet. The size, however, may be increased if care be had in maintaining a proper proportion. As it is, it will seat five hundred and fifty persons with ease and comfort. The arrangement of the interior is given on Plate 14, but is susceptible of modification. Either the straight or the curved pews may be introduced, and the whole of the interior arranged to suit any peculiar wants. In the basement this plan contemplates a lecture-room forty-four by forty-six feet, and two Bible-class or business rooms. As a whole, the plan is very confidently recommended as one well calculated to meet the wants of many churches in moderate circumstances. The whole expense of the building is estimated at six thousand dollars.





AUDIENCE ROOM [illegible]

ELEVATION

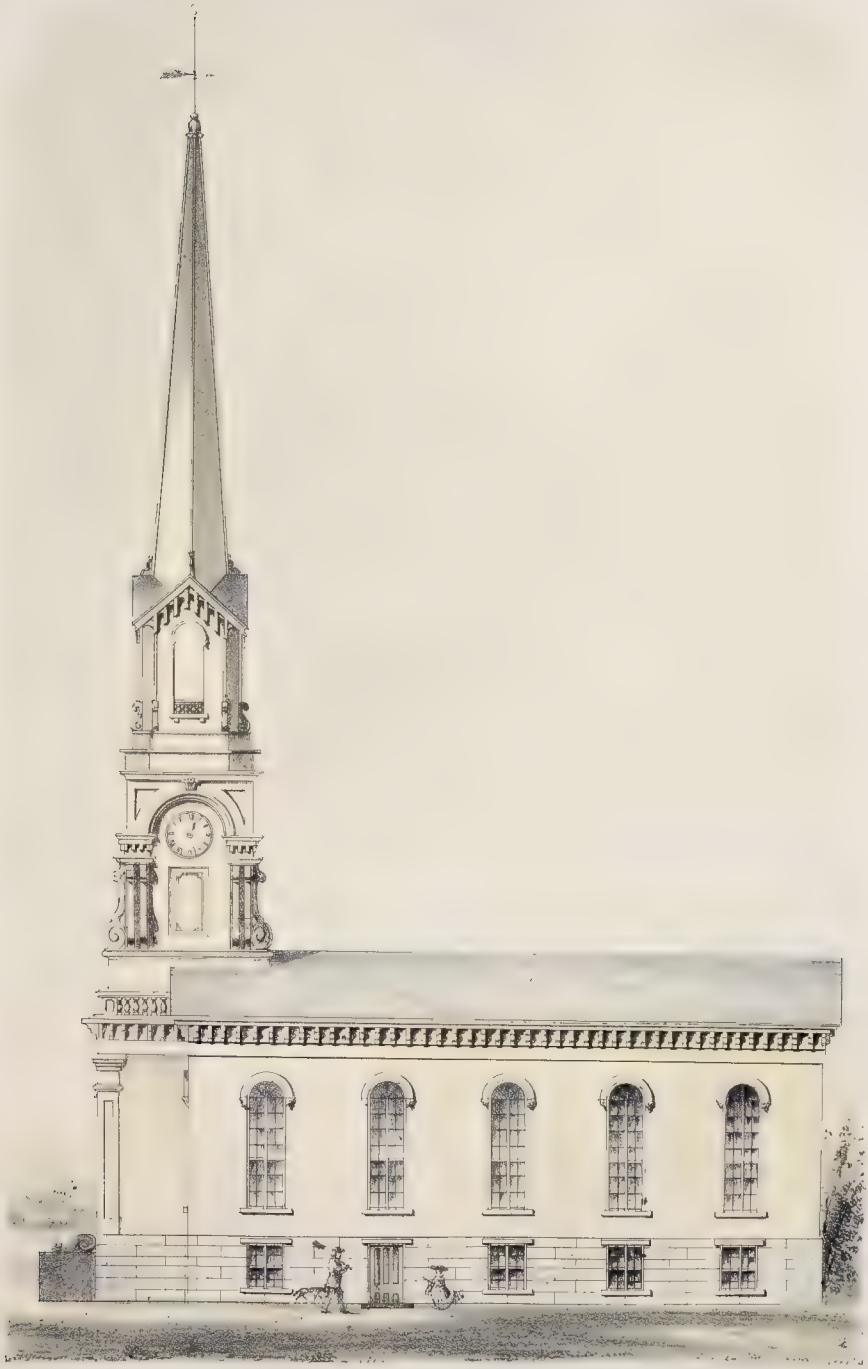
SECTION No 1

DESIGN No. 7.

Plates 15 and 16.

We have in this design something peculiarly graceful and full of taste. A portion of the design is copied from memory from a church in West Cambridge, Mass., the architect of which is unknown to the author of this work. The size of this church is the same as No. 6, and the same arrangement of the interior is suggested; but the general style admits of a much greater display in the decoration both of the exterior and interior. The basement, which is slightly depressed, may be of brick or stone. The posts of the main body rise twenty-four feet above the basement, giving a good height to the room. The windows and door are ornamented with circular heads, and the broad cornice is supported with brackets thickly arranged. Above the roof we have a very graceful and ornamental bell-tower and steeple, rising to an altitude of one hundred and fifty-six feet, reckoning the vane-rod. On the first section of the tower above the roof we have a very simple yet very unique and pretty arrangement; the projections, being sawed from three-inch plank, are easily and cheaply formed, and, together with the clock-face, make a chaste finish, which we think can hardly be surpassed by anything of equal cost. The spire itself is of only four sides, placed diagonally, and surmounted with a finial and vane. The interior is designed to have an organ-loft over the vestibule for the accommodation of the choir; and, if desired, side galleries may be introduced eight feet in width: this would increase the number of sittings to nearly seven hundred. An ornamental plaster cornice, with suitable centres to match, and ornamented architraves, would give a very beautiful appearance to the interior. The pulpit may be of white marble or of simple wood, in a style similar to the one on Plate No. 25. The walls may be frescoed if desirable, but the design should comport with the general design of the whole structure, and great care should be used not to gather large masses of dark coloring together, as it would destroy all good effect in this building. A better plan would be to give the walls some light tint. The cost of such a church without galleries would not be far from eight thousand dollars.

WEST ELEVATION



SIDE ELEVATION

G. Bowler Arch.t

J.H. Bufford's Lith. Boston

DESIGN No. 8.

This design, as we have already intimated, is not entirely original. The steeple was borrowed from that of the Mount Pleasant church in Roxbury, but has been greatly altered, while it retains substantially the same features. To those who admire high steeples we think the grace and beauty of this design will commend itself. Great care, however, is necessary in the construction, lest it should be weakened by the winds, which have great power at such a height, where there is nothing to break their force. The extreme height is designed to be one hundred and sixty-five feet. The main building is forty-six by eighty-two feet, and the posts are thirty-eight feet. The blockings and pilasters of the exterior give a very beautiful aspect to the elevations, and are in admirable keeping with the remaining portions of the building. The tower is designed to project one-half its width in front of the main building. We have not followed the rules of Grecian architecture fully in this design, but have modified it by the introduction of some features that, strictly speaking, do not belong to it. The windows are arched and finished with hood moulds, and the door-head is slightly curved. We think the introduction of these features an addition to the general style of the building, although we prefer usually pure specimens of style; yet we know that the great masters of the art often did change and modify their designs by features drawn from an entirely different style and order, as in the celebrated cathedral of Milan the windows and doors are strictly Grecian, while the general order is strictly Gothic. These two things are as different as possible. The rounded windows of this design are a modification of the Gothic, and belonging to what is usually called the Romanesque or the Byzantine style. In this plan the entrance to the lecture-room is by the same door as to the audience-room above. A large lecture-room and two or more class or business rooms form the basement story. Two flights of steps from the lower vestibule lead to the floor above. The house will seat five hundred and fifty persons without side galleries and seven hundred with them. The interior finish will be plain, having simply a plaster cornice, moulded window-heads, and ornamented centres in the ceiling above. A recess may be constructed back of the pulpit, which in this design would have a very fine effect; or in place of it a frescoed imitation would be better than the blank wall, as it is oftentimes extremely painful to gaze upon a plain wall for any length of time. We estimate the cost of this building, finished in good style, at twelve thousand dollars.

FRONT ELEVATION.

SIDE ELEVATION

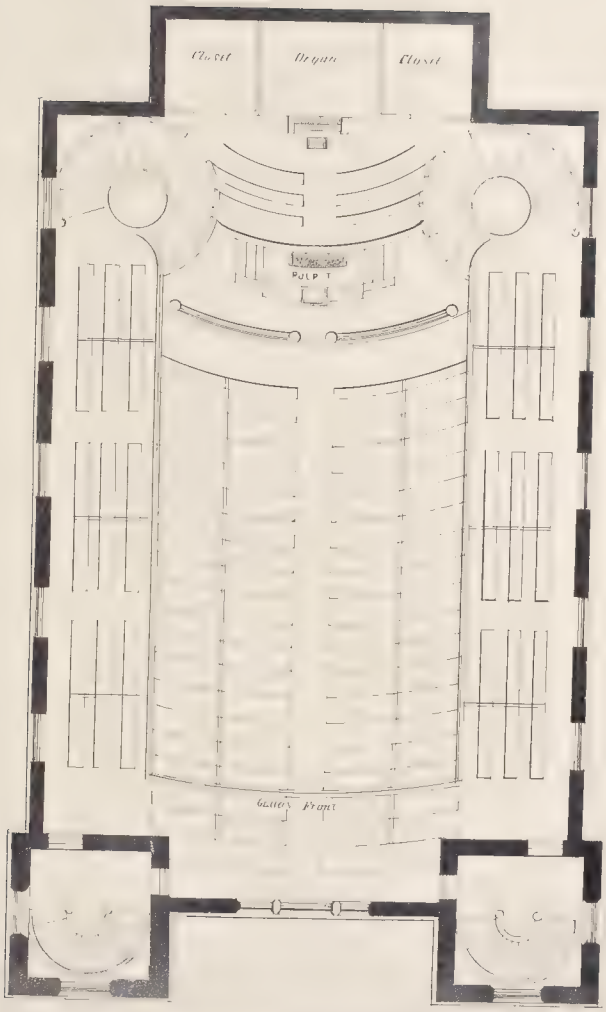
DESIGN No. 9.

The Byzantine style, which we here present, is one of the many modifications of the Gothic, and is very similar in all its features to the Romanesque and Normap styles. Still there are some peculiarities which give it a more tasteful and ornamental appearance than either of the others. The principal peculiarity of this design, however, is in its towers of unequal height. For a corner lot this idea is peculiarly adapted, though in any situation it would not violate good taste. These towers are designed to be sixteen feet square, and seventy-two and one hundred and forty-four feet in height; at the base they will be formed of freestone blocks with belting courses of the same; all the window and door trimmings and the ornaments of the exterior will be of the same material, and the walls, with these exceptions, will be of faced brick. The interior arrangement is somewhat peculiar, approaching nearly the design of Tremont Temple in Boston. A projection in the rear receives the organ and affords room below for the pastor's retirement, and above gives two closets, one on either side of the organ. The orchestra are seated between the organ and the pulpit. On either side the altar a circular flight of steps conducts to the orchestra and into the galleries. Circular flights, also, in each of the towers, give access to the galleries on the opposite end. By a mistake, the projection in the rear of the church was omitted from the side elevation, so that the design does not fully appear on the plate. It was purposed to have a door on either side the projection, leading to the lecture-room and also to the audience-room above. In the basement there may be four small rooms for Bible-classes or business, in addition to a very large and commodious lecture-room. The entire cost of this building would be about twenty thousand dollars, if finished in the best style.

FRONT ELEVATION No 3

SIDE ELEVATION Nº 9.

Plate 21



PLAN [illegible] ARRANGEMENT [illegible] SECTIONS

Nos. 8, 14

DESIGN No. 10.

We have before us a design in what is sometimes called the Romanesque style. It differs from the Gothic design which follows it only in the rounding of the door and window heads and the removal of the pinnacles from the buttresses. This church, as the elevations indicate, is designed to be of brick, with dressings of brown freestone. The floor plan which accompanies it is only designed to convey an idea of the arrangement, without reference to the size; the scale may be enlarged or reduced, however, to any size desirable. A scale of fourteen feet to an inch will give a church sixty by eighty-six feet, which, with galleries on three sides, would easily accommodate eleven hundred persons. In a city or large town it is very desirable that our churches, and indeed all our public buildings, should be constructed of some material more solid and less combustible than wood. A church of the size indicated above would hardly be needed in any other than a large town; and if the style should be deemed desirable for a smaller village, it might be constructed on a smaller scale, of wood, or of such material as would be most convenient. In many places a beautiful stone may be had, suitable for building, almost on the very spot where a church ought to be located, while in other places brick would be much easier obtained than wood even. But, whether built of brick or stone, we think this design will commend itself as a substantial and noble plan, having in its appearance nothing to detract from the idea of permanence and stability. There is nothing on the exterior to which we desire to call especial attention, if we except the peculiar form of the corner buttresses. These, it will be seen, form the corner of themselves, giving a very pleasing effect to the general outline. The interior will be finished with arches rising to the intersection of the roof trussing. Without the working plans and drawings we can hardly convey any idea of the beautiful finish of which this building is capable. A design for the pulpit we have given on Plate No. 25; finely wrought in marble, we think it would be appropriate and beautiful. The gallery front we would construct similar to the design on Plate No. 34. The expense of this building will probably be rising fourteen thousand dollars, if thoroughly finished in the manner contemplated. With a plainer finish and reduced in size, or if built of wood instead of more solid material, the price would be greatly reduced.

FRONT ELEVATION No 10.

C. Bower Arch.t

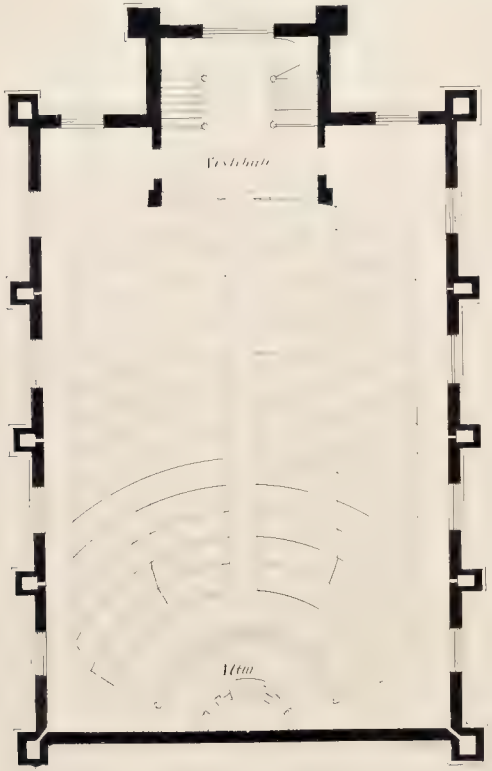
Tillott & Son

SIDE ELEVATION No.10

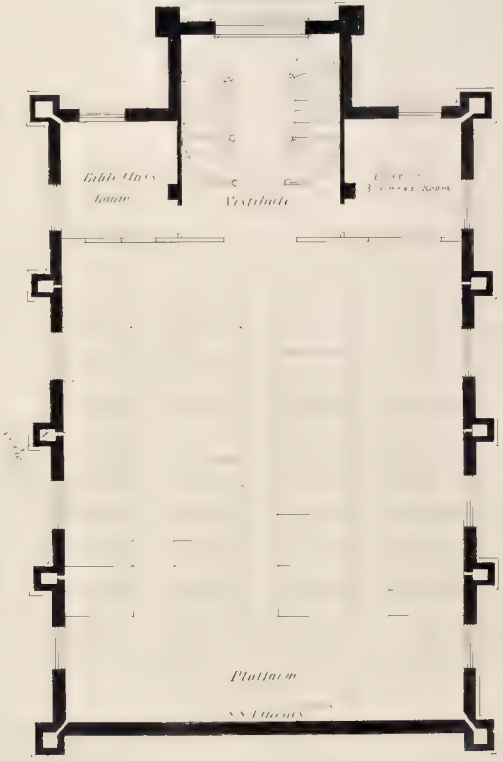
C. Bowler Arch.t

J. H. Buffum d.s 'th. Boston

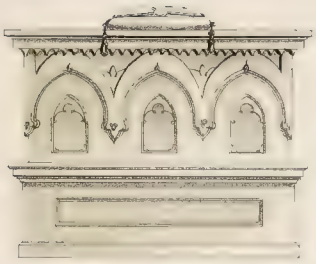
Plate 24

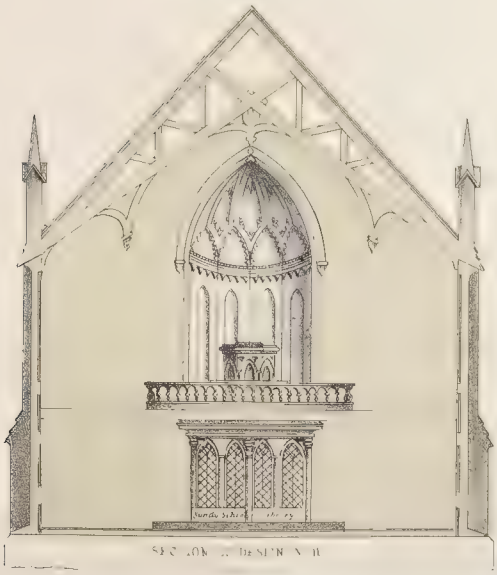


AUDIENCE [illegible] No. II & III



LECTURE ROOM [illegible] No. [illegible] & II





SECTION ... DESIGN No. II

G. Bowler Arch

DESIGN No. 11.

There is, perhaps, no style of architecture more perfectly adapted to the purposes of church building than that of the design which we here present. The idea has been very commonly diffused that this style is more costly than others; but such does not prove to be the fact. The Gothic is no more costly than others, while it presents advantages which no other style gives for chaste ornament and beautiful effect. Some have claimed beauty for the straight line, while others, with Hogarth, agree that the curved line is the line of beauty. Here we have the gentle curve rising to beautiful points, and forming arches of superior effect; and, though the modified style which is adapted to the moderate means of our common country congregations cannot compare with the cathedral architecture of past ages, and many may sneer at the idea of pine wood imitations of heavy stone carving, yet, after all, the style is one peculiarly adapted to the wants which we would meet. We present this elevation and the accompanying plans as a model which we think cannot be surpassed in any design of equal cost. The building may be either of wood or stone, or even of brick with freestone dressings, — though the latter, for a building of this character, seems to us entirely out of place. As the design for the exterior speaks for itself, we shall make no further reference to it. But we desire to refer very particularly to the superior advantages which are presented in any plan where the use of buttresses is allowable: not only do they strengthen the wall, as their very position indicates, but they afford the very best means for ventilation. Instead of being perfectly solid, they should be formed hollow, with an opening at the top beneath the offsets; on the interior, openings should be made, at about three feet from the floor, and also near the roof, so as to allow the free passage of both heated and foul air to the boxes thus formed. Thus there is afforded means, which we think superior to all others, for providing one of the greatest benefits desirable to a worshipping assembly. In the interior arrangement the building will finish up into the roof with suitable archings and mouldings. Galleries may be introduced, if needed, so as to give a larger number of seats; and indeed the whole design may be enlarged, due care being taken to preserve the right proportions. If we could do so, we would gladly present the working plans, and especially a design for the gallery front and the supports and framing of the same; but this we cannot do. We must leave the design without further reference, hoping that, as a matter of good taste and beautiful effect, our friends who think of building will give good attention to this design. The size, as here indicated, is forty-four by sixty-two feet, having seats on the floor for three hundred and sixty persons. The expense of building of wood will be about eight thousand dollars, or, if enlarged as proposed in the description of No. 10, ten thousand dollars

FRONT ELEVATION Nº 12

C. Bowler Arch.

J. H. Basford

SIDE ELEVATION No 12

L. Rowlter Arch.

J. Butler Engrd. Birmm.

DESIGN No. 12.

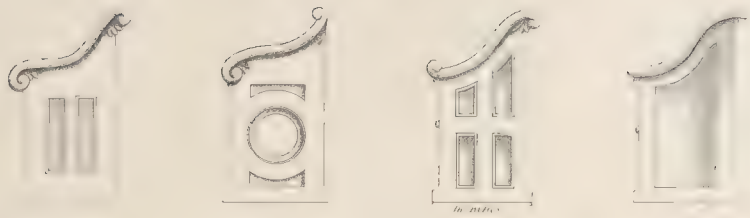
This design is of a similar style with No. 8, but is broader in its proportions, and altogether a more massive building, with less height of steeple. The frame-work of the steeple rises from the ground, so that it does not bear upon the roof as it would seem to do. The two central columns of the front colonnade are designed to be formed around the main timber of the tower. Nothing could be worse than to rest a heavy steeple and tower like this directly upon the roof-beams; we therefore carry the posts down to the sills of the house. This whole design seems to us peculiarly chaste and beautiful, and, without calling attention to the various parts and ornamentation of the exterior, we submit the plates to those interested, to judge of its fitness and beauty for themselves. The interior is arranged for one hundred and twenty-two pews on the lower floor, seating between six and seven hundred, and if galleries are added it may be arranged for nine or even ten hundred sittings. A design for the pulpit is given on Plate No. 30, which we think, for the convenience of the speaker and the effect of the style, will be equal to the wants and wishes of every man of taste. The side walls of this building may be finished on the interior with pilasters between the windows, which may be formed in such a manner as to afford a complete ventilation to the room, and, if arches be raised from them, a very beautiful effect may be produced. The basement of this building, for the sake of a better effect, is depressed four feet below the surface of the ground. We have estimated the cost of this building at fourteen thousand dollars. This provides for quite an elaborate finish of the interior; with a plainer finish, something less than this amount would suffice.

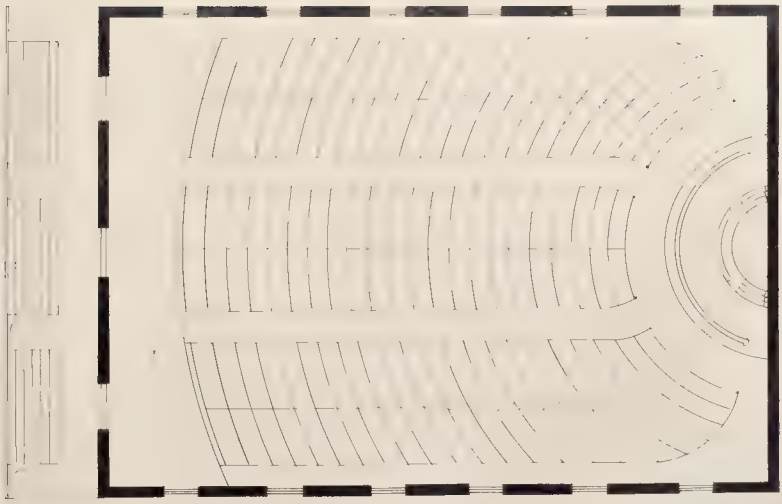
FRONT ELEVATION No 12

SIDE ELEVATION No. 12.

G. Dexter Jun.r

C. H. Butler Sc. & Lith. Boston





AUDIENCE ROOM No 1.

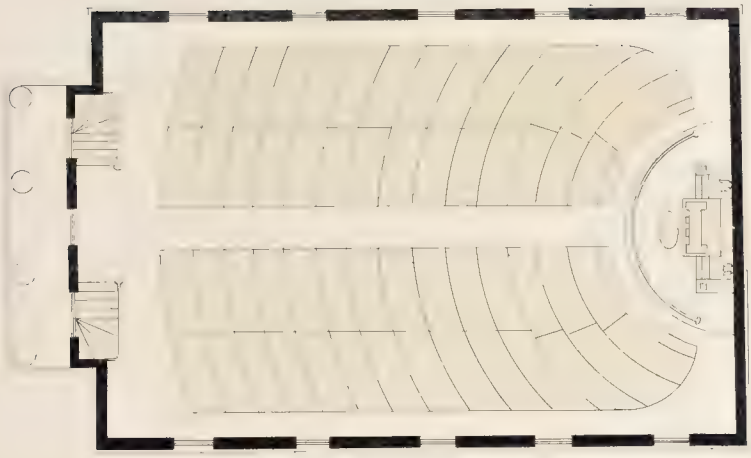
Size 56 by 38 inches

DESIGN No. 13.

In these plates we give a sketch of a Grecian temple on a small scale. The building should be much larger than the floor plan represents, but want of room compels us to reduce its size, while we try to convey the idea we wish. The scale of the floor plan gives a house forty-four by sixty-six feet, seating three hundred and fifty persons; but the scale of twelve feet to an inch applied to the elevations gives us a house fifty-six by eighty feet, which would seat nearly eight hundred, including the orchestra. This building would perhaps look awkward standing alone by itself, but in the city, surrounded by other buildings, it would have a fine appearance. Its Corinthian columns and pilasters, with the plain and chaste entablature above them, have in fact a decided richness, which no mere ornament can give to a building; and the plainness of the stone basement, relieved only by the heavy doors and a niche on either side, is an addition rather than a detraction from the general good effect of the design. We have surmounted this design with a figure kneeling before the cross. This will appear to many in bad taste, but we humbly submit to such whether we are to blot out and entirely ignore the emblems of our holy Christianity, because they have sometimes been abused and prostituted to an idolatrous adoration. Something else, however, may be substituted, if thought best, for this place. The interior of this building will be finished with the severe plainness of the full Grecian style, allowing no ornament save the carved capitals of the pilasters and moulded architraves of the windows and the plaster cornice. The probable cost of this building would be eighteen thousand dollars.

LEVOLANO

AUDIENCE ROOM Nº 13



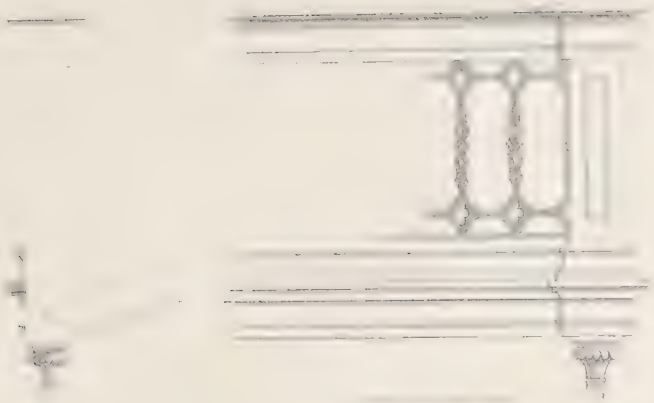
Scale 10 ft to an Inch

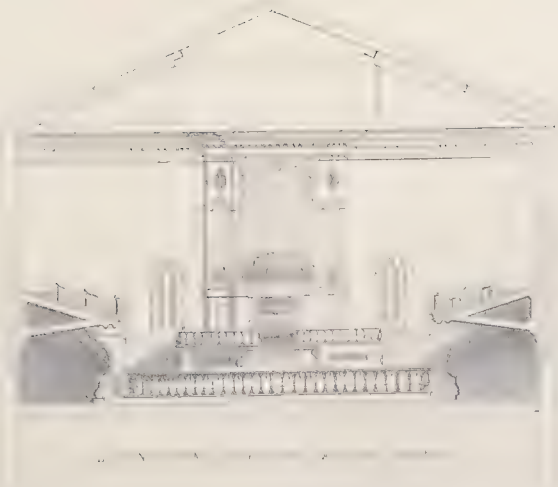
SIDE ELEVATION

DESIGN No. 14.

This design, as will be readily seen, is only suitable for building of granite, or some solid stone of similar character. It is not often that such a design is called for, because those who can meet the expense of such a building usually prefer a more elaborate though less substantial style. Still, in the city, where it is surrounded by other large and solid buildings, there can be nothing more appropriate than a design of this character. Unhammered stone may be used, with the exception of the corner blocks, belting course, and window and door trimmings; these should be hammered upon the face, giving a more finished appearance to the whole design. The size of the main body will be fifty-six by ninety feet, and the height of the towers ninety feet. It will accommodate not far from one thousand persons, and will cost twenty-four thousand dollars.

ELEVATION No 14

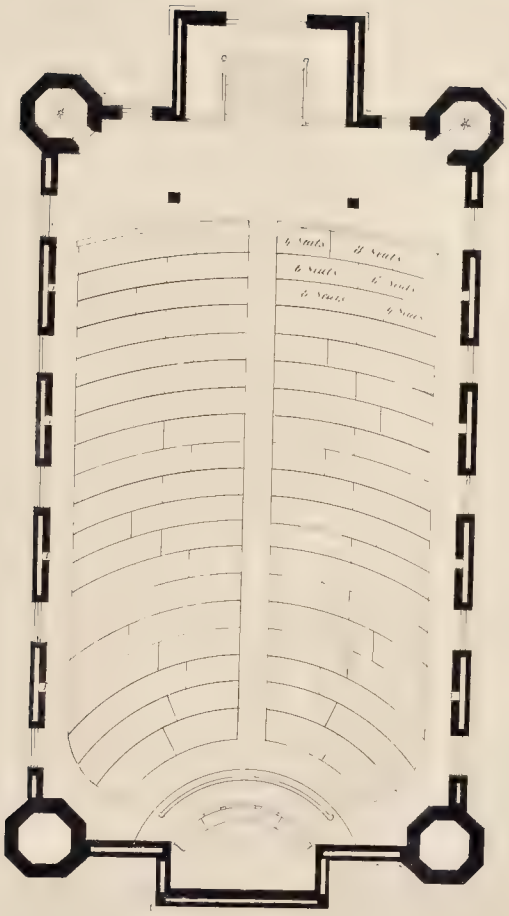




DESIGN No. 15.

We conclude our series of designs for churches with the front elevation and ground plan of a church in the Norman style. This should be of brick or stone. The design has some peculiarities, which give it rather an odd appearance. The octagon tower on each corner gives a very solid and substantial look to the whole structure, while the main tower and belfry, with its highly ornamented finish, gives an air of elegance to the design. The ornamented windows, with their diamond panes of glass and rich surmounting, and especially the large window of the tower with the cross of stained glass within it, are a very essential addition to the beauty and taste of the building, and the carved supports of the dial, the zig-zag belts above it, the bracketed cornice, and the curved roof and finial, render to the building a very highly ornamented and beautiful appearance. In the interior arrangement it will be seen that the pews are of different lengths, designed to accommodate either large or small families. The whole number of seats, including the orchestra, will be about five hundred and thirty. The walls are built double, with an air-chamber between, of which peculiarity we take advantage for purposes of ventilation. The cost of a church upon this plan is estimated at sixteen thousand dollars. This amount includes the entire finishing, organ, &c.

Plate 36



FLOOR PLAN FOR No. 15

DESIGNS Nos. 16 AND 17.

We had intended to have closed up our church designs with the last one given, but have concluded to add two more to the original number. These two are in the Gothic style, to be built of either brown stone or granite, and finished throughout in the most beautiful manner. Of the exterior little need be said, for the plates speak for themselves. No. 16 is designed to have a separate building connected with it for a lecture-room and for business purposes. Aside from the large and spacious audience-room, it embraces only the two small rooms on either side of the organ. One of these is designed for the pastor's vestry-room, and the other may be used for any other desirable purpose. As it is always extremely desirable to have the congregation unite in the praise of God, we have arranged to have the organ placed near the floor, and directly back of the speaker's platform. Seats are here arranged for a few singers as leading voices, to give the solos or other particular passages, and as a sort of guide to the rest of the congregation. Another object in thus arranging for the singers, is, that the audience need not be obliged to turn their backs upon the preacher in order to join worship with the singers, as is now done in most of the New England churches. This church will have galleries on three sides, supported by the same columns that support the roof. The whole interior will be arched and panelled, and all the principal timbers will be moulded. The braces and wall pieces will terminate on large stone corbels above the floor of the gallery. The gallery front will be of open tracery, of a design in harmony with the general style of the edifice. The organ-case will be constructed of the same material and in the same style with the remainder of the building. The house is designed, with the galleries, to seat about thirteen hundred persons. The estimated cost is about fifty thousand dollars.

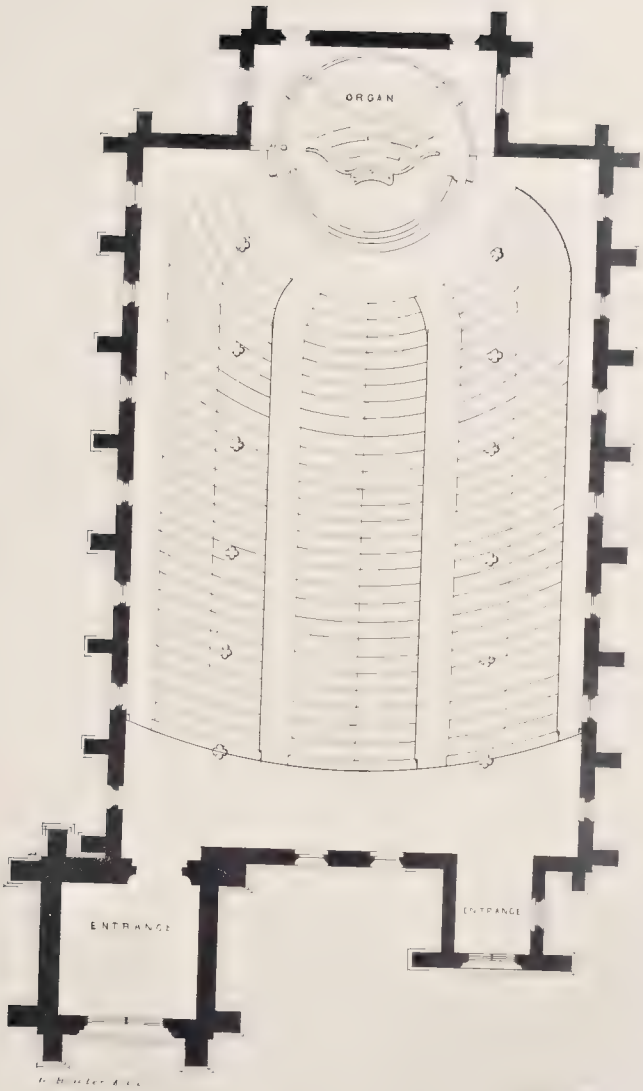
No. 17 is a less expensive building, in the decorated Gothic style, sixty-two feet by eighty-six, exclusive of the tower, which is twenty-four feet square and one hundred ninety-two feet in the extreme height. There is a basement, which may be arranged for a very large lecture-room, and such other rooms as may be needed. The interior of the audience-room will be finished in the full Gothic style, with open timbered roof, arches, panelling, and mouldings. The braces will rest on corbels of stone built into the wall. The gallery will be supported by columns running up to the roof, and will be ornamented with cast-iron tracery. The organ and choir gallery will be over the main entrance. This church will also be built of stone, and will cost not far from thirty thousand dollars. The size may, however, be reduced, to meet the wants of a smaller congregation, in which case the expense will be somewhat less. In its present form it will seat, including the galleries, one thousand persons.

A

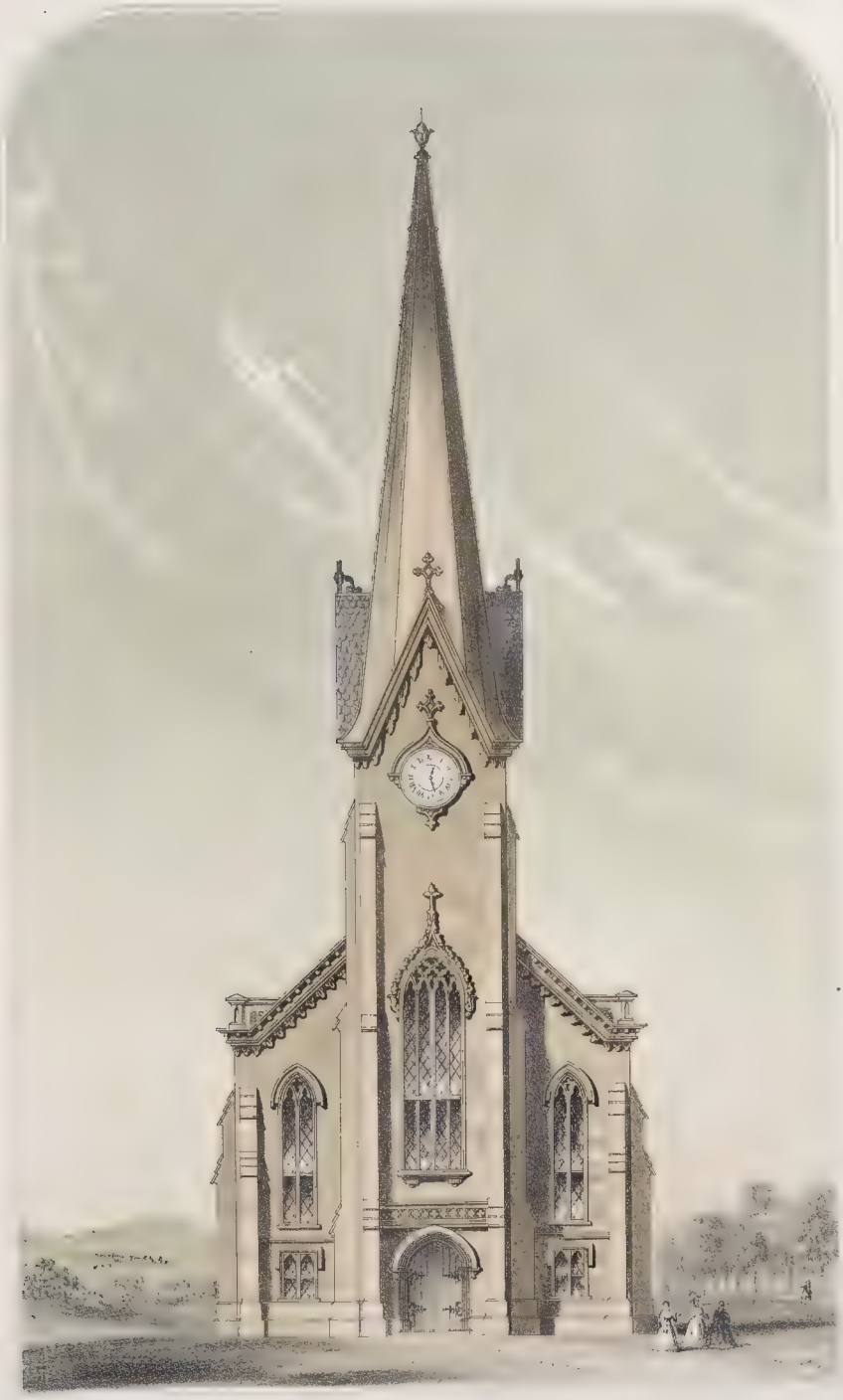
FRONT ELEVATION No. 16

SIDE ELEVATION N° 16

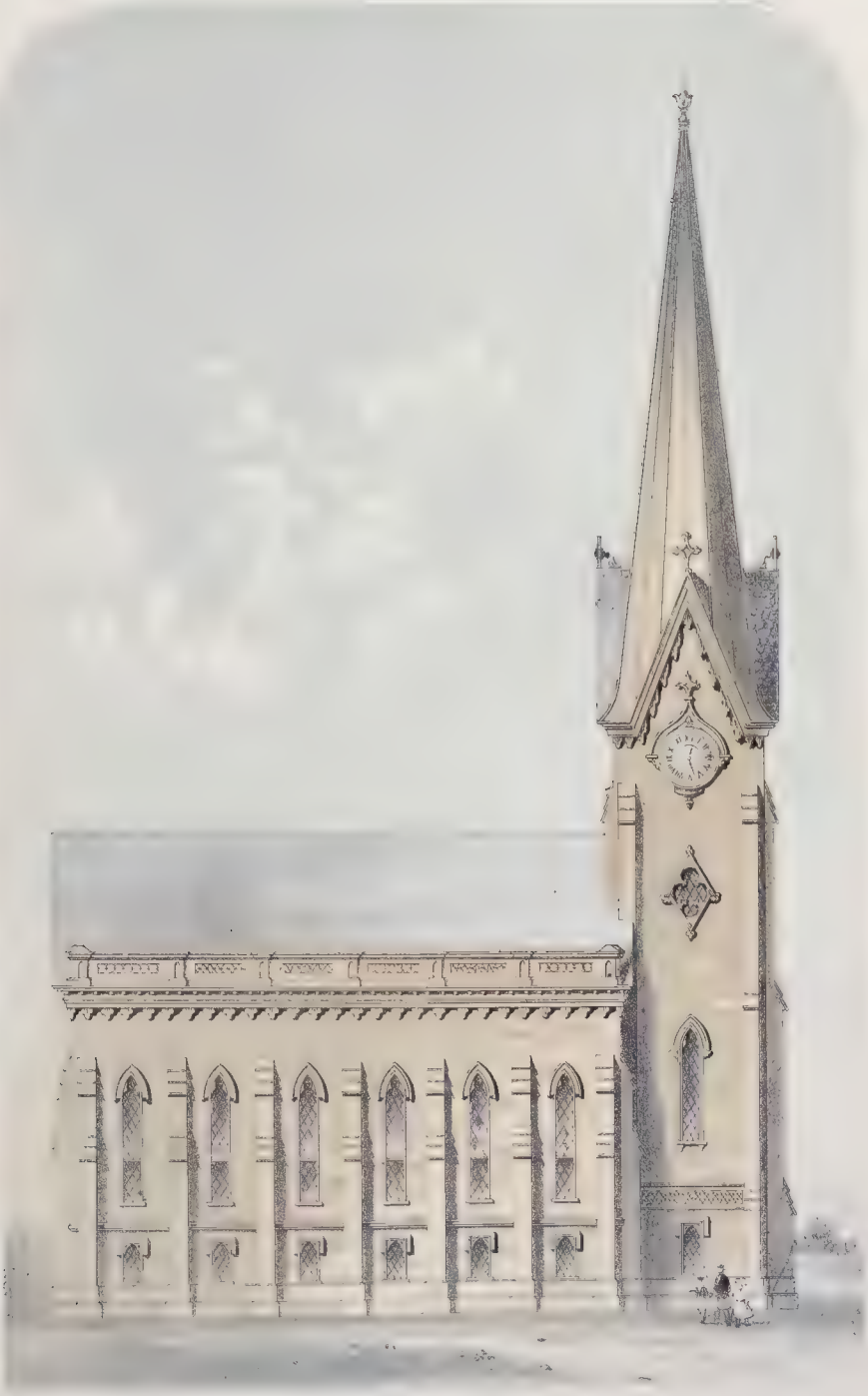
C



GROUND PLAN No 16

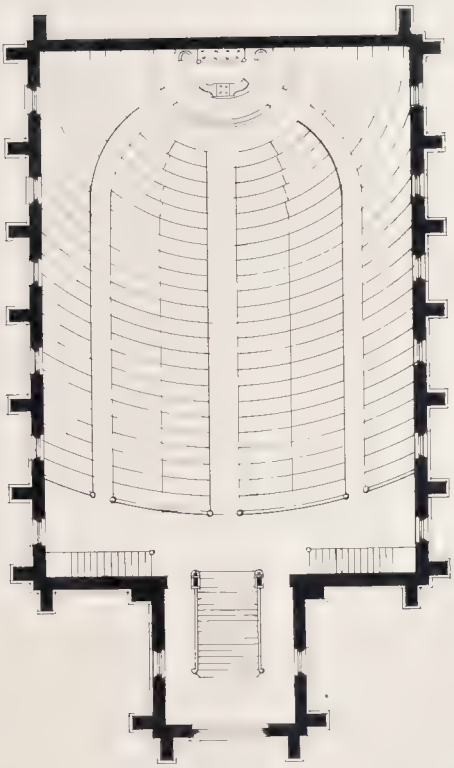


FRONT ELEVATION Nº 17



SIDE ELEVATION N 6

F



to Broader Arch.

FLOOR PLAN No 17.

In feet to an inch

PARSONAGES.

In presenting a few designs for buildings, such as we think will meet the demands of most churches, for the accommodation of the pastor and his family, we feel it necessary to devote a short chapter to some remarks on the arrangement of rooms and the necessity of attending to little things in the construction of dwellings of this character. Almost every individual has his own ideas of convenience as regard *his own* dwelling; but too often a dwelling for the pastor of his church is modelled according to means rather than in accordance with his wants and necessities. The idea is taken from some house already built, and the carpenter at once employed, without plans or directions, to produce a copy, and finish according to his own taste. This is all wrong. No house should be built or commenced without a thorough plan of every part on paper, and specifications of everything, little or great, which is to enter into its composition. Even if it is to be a copy from some house already built, no man or body of men can afford to build without a plan. All the talk about relying on practical carpenters rather than upon professional architects is mere twaddle. The practical carpenter, in ninety-nine cases out of a hundred, will find it for his interest to say nothing of those little things which add so greatly to the convenience and comfort of a dwelling, and, if these are not specifically mentioned by written instruction and on the plans from which he works, they will be either omitted entirely or made an extra charge on settlement.

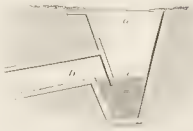
In arranging the plans for a parsonage, particular attention should be paid to furnishing a good, airy, well-ventilated, and comfortable room for a study. This will be the principal point in which this should differ from other dwellings. In all cases it should be on the first floor, removed at the same time as far as possible both from the noise of the street and the noise of the children in the house. Suitable recesses should be constructed in the walls for book-shelves, and a good closet, with both shelves and drawers, for papers and pamphlets. Here is the place in which the studious pastor will spend a large portion of his waking hours, where he will forge out his sermons, deliberate on the wants of his people, meditate on the holy themes so intimately connected with his work, hold communion with his God, and come forth all glowing, as Moses came from the mount after his communings with the Deity, to labor for the good of his flock, and point them to the green pastures and the flowing waters of a deep religious experience. Hence it should be a pleasant and an attractive place,—light, easily warmed in the winter, shaded by foliage in the summer, and having all its accessories of such a character that the mind may not be distracted by any uncomfortable feeling arising from its connection with other objects. We think too much attention cannot be paid to this matter, for the study, above all things else, is the most important room in the whole arrangement of a pastor's home. In regard to other rooms, less care may be used in reference to situation, although, if possible, those which are in common use should have a southern aspect rather than a northern one.

Next in importance to the study is the kitchen. Here the mother of a family must necessarily spend much of her time, unless she is uncommonly successful in obtaining good help, and in anywise here must be performed a very large proportion of the household labor. Every convenience of closets, shelving, drawers, sink, water of both kinds, pantry for provisions, and, if possible, a store-room in addition, should be added to or connected with the kitchen. Too little attention has always been paid to the arrangements necessary for doing family work with ease and comfort, and they who do give requisite care to this matter, in their arrangements for the pastor's family, will most certainly receive the blessing of both the matron and her domestics. Better, far, to lay out a larger portion of your means here and a smaller portion in the parlor. Sleeping rooms should all be high and easily ventilated, and of good size, and a bath-room should in no case be omitted. A linen closet should also be constructed, with necessary shelving and drawers for the better preservation of the household linen and bed-clothing. Every window in every house should be double hung, with weights and pulleys.

In cases where wells cannot be easily dug or good water be obtained, a rain-water cistern should be constructed, with suitable filtering apparatus. This would be better and vastly more healthy in every case than to drink the hard mineral water which we draw from our wells. Various forms of cisterns are in use, two of which are given in the annexed cuts. In the first, A is the large brick cistern; B is a box connecting the receiving and distributing reservoirs, either end of it being pierced with small gimlet holes and having a large sponge attached to its inside surface, the intermediate space being filled with charcoal; C is the disbursing reservoir, from which the water is drawn, sweet and pure as the dews of heaven.

In the second cut is a reservoir divided through its entire length by a partition shutting down into a groove filled with charcoal and gravel, the gravel being at the top. The water from A, the receiving reservoir, is purified in passing through the charcoal at C into B, the disbursing reservoir, from which it is drawn for daily use. The advantage of the first consists in the ease of cleaning and renewing the charcoal by shutting down a little gate at D and unscrewing the box, thereby detaching the whole apparatus, while in the second the whole amount of water must be drawn off in order to get at the charcoal.

In this connection we may refer to another very essential matter, to which reference has been made in various architectural works. Every house should be provided with a waste water drain; but, as usually constructed, these are a source from whence the most poisonous and unhealthy odors are exhaled. In constructing these, there should always be a stench-trap at the entrance, formed as in figure 3: *a* is the box to receive the waste water, *b* is the drain, *c* is a partition extending downwards until it cuts off, by means of the water retained in the box, all air communication from *b* to *a*. This will remedy all the difficulties in the way and prevent the rising of any noxious smell from the drain. These, perhaps, are the most important suggestions; but there are many other little and some great things which will demand attention, and which ought not to be omitted in building a parsonage.



We add a short description of the accompanying plans.

PARSONAGE No. 1

(See Title-page and Plate No. 37.)

We have in this design a cottage of one and a half stories, vertically boarded and battened. The main body of the house is thirty-eight by twenty-six feet outside, with a projection of five by fourteen feet in front, and another nine by fourteen feet in the rear; a large space is thus enclosed, giving a vestibule seven by fourteen feet, a parlor, sitting-room, study, dining-room, and kitchen, each twelve by fourteen feet, with the exception that two corners in each room are cut off, and a large hall, containing the staircase, in the centre of the house, eight by eighteen feet. In the second story there are five large chambers, nearly upright; making a house of ten good-sized, comfortable rooms, with appropriate closets and other conveniences. Every room in this house may be reached from every other room without passing through any other space than the hall. The inconvenience so common of being obliged to go through some other room in order to reach any part of the house is thus banished. A slightly projecting roof, supported by brackets, together with the balustrades over and at either side of the front door, give an air of elegance to the whole building. With a sturdy old oak or an overhanging elm, a few rose-bushes, a running vine on its trellis, and a little garden of flowers surrounding it, we think any pastor's heart would rejoice in the pleasures which would cluster about this simple yet tasteful cottage. The expense of its erection ought not to exceed sixteen hundred dollars.

PARSONAGE No. 2. PLATE 38

We have a design here of somewhat greater pretence, and yet combining less room than the other. The main body is twenty by forty feet, with an ell in front sixteen and a half by eight feet outside; a verandah in front, eight feet in width; also, in the rear, a lean-to, of six feet in width, terminating in a verandah; and a porch over the back entrance, seven feet square. The

parlor has a bay window in front, surmounted by an iron balustrade; and there are two Lutheran windows in the roof over the piazza, which give a pleasing effect to the exterior. The general style and arrangement may be seen on the plan. Hall, eight by ten; staircase, eight by twelve; parlor, fifteen by fifteen; study, nine by twelve; dining-room, twelve by fourteen, opening by a door upon the verandah; kitchen, fourteen by fifteen; and the sink-room and entry combined, form the lower story. The chamber story combines three large rooms, bath-room, linen closets, &c. It will be seen at once that this is a very convenient and desirable arrangement for the family of a pastor. A larger [illegible] room in stable [illegible] would [illegible] but, for a small family, this would [illegible] convenience, use, and [illegible] [illegible] the surrounding shrubbery and green arrangements, should [illegible] be dispensed with, [illegible] to the general effect. Vines should never be permitted [illegible] upon the house or upon the supports of the piazza; but in all cases upon trellisses; in fact, they must be torn down, and greatly injured thereby, whenever the house is painted, besides gathering dampness and mould upon the paint wherever they run. The expense of this building will not greatly exceed that of No. 1.

PARSONAGE No. 3. Plate 39

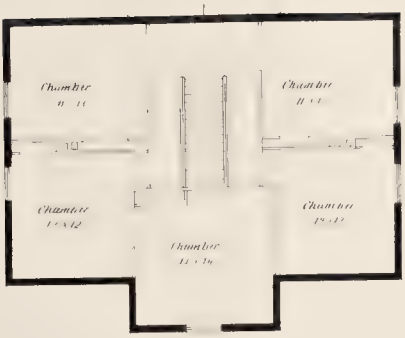
A TWO-STORY building, boarded vertically and battened, having a flat roof, tinned, of course, and properly painted. The exterior has a pleasing effect. The window-heads of the second story being rounded, the roof having plain blocked cornices, the lower front windows having an iron balustrade, and the piazza with its surmount, all combine to relieve what would otherwise be a naked and somewhat homely structure. The size of the building on the floor, including the piazza, is twenty-seven by thirty, with an ell nine by fourteen. The interior arrangement comprises the hall; parlor, fourteen by twenty; kitchen, fifteen by seventeen; the study, eight by twelve: and the back entry and pantry combined, with appropriate closets, on the lower floor; and on the chamber floor a bath-room, four sleeping chambers, and linen closet. The expense of this building will be about eighteen hundred dollars.

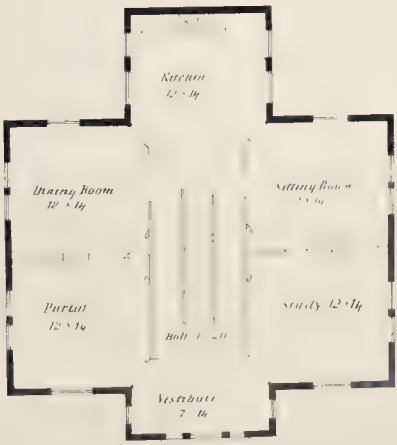
PARSONAGE No. 4. Plate 40

WE have in this design an upright house with attics. The size upon the floor is seventeen and a half feet by forty-three feet, and an ell seventeen by twenty-two feet, exclusive of the piazza and back entry. The exterior has all the pretension of a genteel country residence, and would be an ornament to any situation. Slightly ornamented, it nevertheless does not depend on any ornament to commend it to the good taste of any man. We have many buildings of this class, and some have chosen to give them the name of the "American style." There certainly is a sort of independent republican look about it, and an air of adaptation to the wants of a large class of people in the middling walks of life. Entering from the piazza, we have, in the interior, first a hall, six by twenty-one feet; on the right hand, parlors, fourteen by fifteen and twelve by fifteen, with folding doors, the back parlor being lighted by a large bay window. On the left of the hall, we have a study nine by ten, and a room which may be used for sitting, breakfast, or sleeping room. In the rear of the parlors is the kitchen, fourteen by fifteen, and the back entry and pantry combined, opening from both kitchen and hall. The chamber plan embraces two large rooms, twelve by fifteen; one room over kitchen, nine by thirteen; two rooms over study and breakfast room, nine by ten; and a bath-room. There are also three attic rooms of large size,—making in all thirteen rooms. Decidedly a very conveniently-arranged and tasteful structure. This house will cost in the neighborhood of twenty-four hundred dollars.

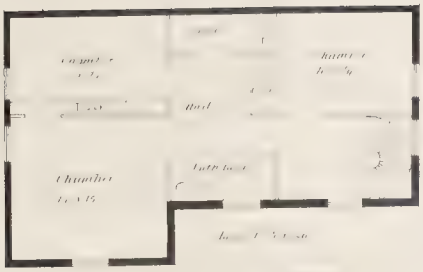
PARSONAGE No. 5. Plate 41.

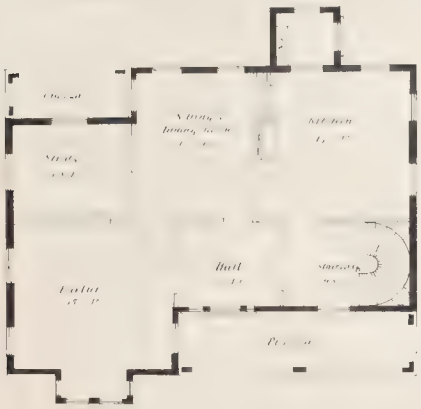
IT will be seen at once that this parsonage is designed for the city, and should be built of brick or stone. It may, however, with slight alterations, be adapted to a wooden building for the country village. The size upon the floor is twenty-six by thirty-two outside, with an addition ten by ten in the rear. In the depressed basement we have hall, store-room, kitchen, dining-room, and cellar. On the first floor, hall, ten by twenty-two feet, with both front and back stairs; parlors, with folding doors, each fifteen by fifteen, or one large parlor fifteen by thirty. In the addition is the study, ten by ten feet. On the second floor are two large rooms, each with large wardrobes, and two smaller rooms, ten feet square. On the third floor are four chambers;—making in all thirteen rooms. Perhaps as good an arrangement as could be adopted where land is scarce and hard to be obtained. A lot twenty-six by sixty feet would answer the purpose, although a larger one would of course be desirable. The only ornament which could be admitted here consists of the balustrade and projecting door head. The cost of erection would vary from five to eight thousand dollars.

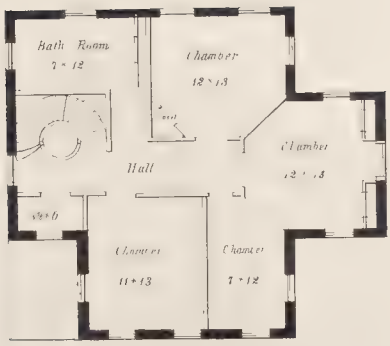




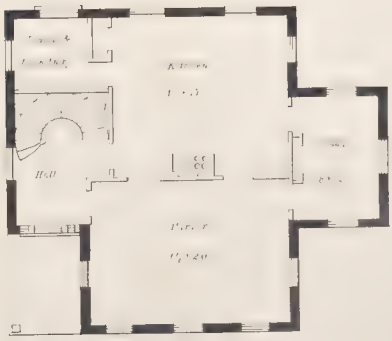
FOR ELEVATION SEE TITLE PAGE.


Hall
Chamber


Hall
Parlor

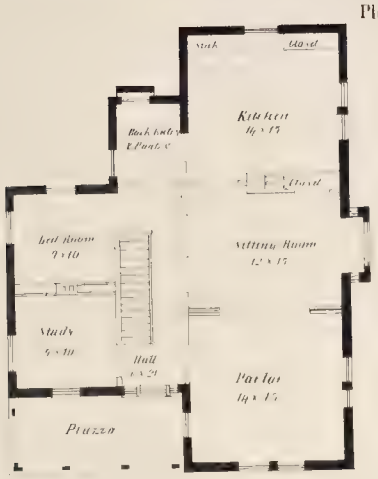


CHAMBER FLOOR



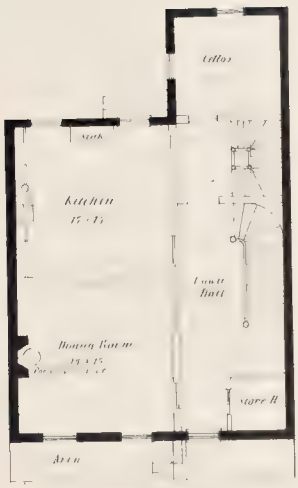
FIRST FLOOR

Plate 40

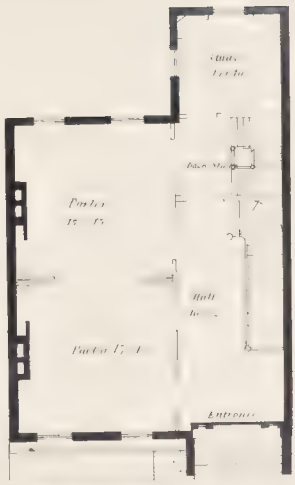


L. Bowler Arch

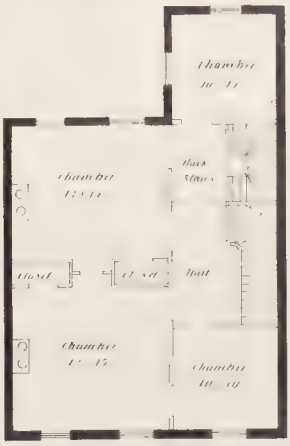
C. H. Fairfield & Co. Boston



Basement Plan



First Floor plan



Chamber Floor plan
4th Floor the same as this

Chapel and Church